

**RELATIONSHIP BETWEEN WORKING CAPITAL MANAGEMENT POLICIES  
AND FINANCIAL PERFORMANCE: A SURVEY OF DEPOSIT TAKING MFIS IN  
KENYA**

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## DECLARATION

This research project is my original work and has not been submitted for examination in any other university.

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## **DEDICATION**

To my loving mum Mary, for her inspiration, encouragement, support and prayers.

## **ABSTRACT**

Working capital management is the management of short term financing requirements of a firm. This includes maintaining optimum balance of working capital components- receivables, inventory, payables- and using the cash efficiently for day to day operations. Optimization of working capital balances means minimizing the working capital requirements and maximizing possible revenues. Efficient WCM increases firm's free cash flow, which in turn increases the firm's growth opportunities and return to shareholders.

The following are the objectives of this study: To establish the working capital management policies among Micro Finance Institutions with a bias towards Deposit Taking Institutions in Kenya and to examine the relationship between working capital management and profitability in deposit taking Micro Finance Institutions in Kenya.

The study employed a descriptive design to explain the relationship between working capital policies and profitability. The population study comprised all deposit taking MFIs as at 2011, as licensed by the CBK at the end of 2011. The financial statements of these DTMs for the year 2011 were used to extract data pertaining to working capital practices and profitability. Multiple linear regression models were used to establish the relationship between the two variables.

The study findings indicated that there was a significant relationship between working capital management policies and ROA (measure of profitability). A negative correlation existed between ROA and all the working capital components analysed (WCC, DTD, CPD, ATO), meaning that no significant component contributed to working capital management and most

important that a reduction in either of the components ratios (days) led to an increase in the profitability (ROA).

The study recommends that, it is critical for financial managers to observe closely all their working capital components in order to improve on their overall profitability, for the survival of the organization. The DTMs most of whom have recently been licensed into operations by the CBK, need especially take keen interest on their working capital components especially their Creditor Payable Days to create a correct balance and also maintain profitability as they are also in business and for long term survival.

## TABLE OF CONTENTS

DECLARATION .....	ii
ACKNOWLEDGEMENTS .....	iii
DEDICATION .....	iv
ABSTRACT .....	v
LIST OF ABBREVIATIONS .....	ix
CHAPTER ONE .....	1
INTRODUCTION .....	1
1.1 Background of the Study .....	1
1.1.1 Working Capital Policy .....	3
1.1.2 Financial Performance Measures .....	5
1.1.3 Working Capital Management and Financial Performance .....	7
1.1.4 Microfinance institutions in Kenya .....	8
1.2 Research Problem .....	10
1.3 Objectives .....	12
1.4 Value of the Study .....	12
CHAPTER TWO .....	14
LITERATURE REVIEW .....	14
2.1. Introduction .....	14
2.2 Theoretical Review .....	14
2.2.1 Operating Cycle Theory .....	15
2.2.2 Cash Conversion Cycle Theory .....	15
2.3 Working Capital Management .....	16
2.4 Importance of Working Capital Management .....	17
2.5 Working Capital Management Policies and Profitability .....	19
2.6 Empirical Evidence .....	20
2.7 Conclusion of Literature Review .....	26
CHAPTER THREE .....	27
RESEARCH METHODOLOGY .....	27
3.1 Introduction .....	27
3.2 Research Design .....	27

3.3 Population.....	27
3.5 Data Collection.....	28
3.6 Data Analysis .....	28
3.6.1 Analytical Model .....	28
CHAPTER FOUR.....	30
DATA ANALYSIS, FINDINGS AND DISCUSSIONS.....	30
4.1 Introduction .....	30
4.2 Descriptive Statistics .....	30
4.3 Correlation Analysis.....	32
4.4 Regression analysis .....	34
4.5 Coefficient of determination .....	35
4.6 ANOVA (Analysis of Variance).....	36
4.7 Interpretation of findings.....	37
CHAPTER FIVE .....	41
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	41
5.1 Introduction .....	41
5.2 Summary .....	41
5.3 Conclusions .....	42
5.4 For Policy .....	43
5.5 Limitation of the Study .....	44
5.6 Suggestions for Further Research .....	45
REFERENCES .....	46
APPENDICES .....	50
List of deposit taking MFIs.....	50



## LIST OF ABBREVIATIONS

ATO	-Administration Overheads Turnover
CCC	- Cash Conversion Cycle
CBK	-Central Bank of Kenya
CPD	-Creditor Payable Days
DTD	-Debtor Turnover Days
DTM	-Deposit Taking Micro Finance Institutions
FSA	- Financial Services Associations
MFI <sub>s</sub>	- Micro Finance Institutions
MSE <sub>s</sub>	- Micro Small Enterprises
NGO	- Non Governmental Organizations
NSE	- Nairobi Stock Exchange
NWC	- Net Working Capital
NTC	- Net Trading Cycle
ROA	- Return on Asset
ROE	- Return on Equity
ROD	- Return on Investment Deposits
RONA	- Return on Net Assets
ROSCAs	- Rotating Savings and Credit Associations
SACCOS	- Savings and Credit Cooperatives
SASRA	- SACCO Societies Regulatory Authority
WC	- Working Capital
WCC	-Working Capital Cycle
WCM	- Working Capital Management

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Working Capital Management is to “create a set of decision rules” and “logically interrelated control indices” which aid the manager to evaluate policies and take effective action. Mehta, (1974). Working capital management (WCM) is therefore the management of short-term financing requirements of a firm. This includes maintaining optimum balance of working capital components – receivables, inventory and payables – and using the cash efficiently for day-to-day operations. Optimization of working capital balance means minimizing the working capital requirements and realizing maximum possible revenues. Efficient WCM increases firms’ free cash flow, which in turn increases the firms’ growth opportunities and return to shareholders. Even though firms traditionally are focused on long term capital budgeting and capital structure, the recent trend is that many companies across different industries focus on WCM efficiency. There is much evidence in the financial literature that present the importance of WCM. The results of empirical analysis show that there is statistical evidence for a strong relationship between the firm’s profitability and its WCM efficiency Shin and Soenen (1998).

Accordingly, the purpose of working capital management is to manage the firm’s current accounts to attain a desired balance between profitability and risk. To enhance profitability, Hill and Sartoris (1992) suggest reducing time value costs (the opportunity cost of the float), credit losses due to the inability to collect payments, transaction costs of moving cash within and between other countries, and losses on foreign exchange conversions. The objective

function identified by Hill and Sartoris suggests several areas of research in international working capital management, including those covered in the current survey: foreign exchange risk management activities, international cash management operations, and international cash collections and credit management practices.

The management of working capital is important to the financial health of businesses of all sizes. The amounts invested in working capital are often high in proportion to the total assets employed and so it is vital that these amounts are used in an efficient and effective way Padachi, (2006). Working capital starvation is generally credited as a major cause if not the major cause of small business failure in many developed and developing countries Rafuse, (1996). The success of a firm depends ultimately, on its ability to generate cash receipts in excess of disbursements. The cash flow problems of many small businesses are exacerbated by poor financial management and in particular the lack of planning cash requirements Jarvis, (1996)

Despite the fact that business performance is relying on efficient working capital practices, this area has been neglected for research for a long time period. Even in the developed countries like America, research on the international working capital practices is not extensive, so longitudinal comparisons are difficult to make. In addition, corporate finance theory does little to address the issue of working capital management, and thus does not provide testable hypotheses in the focused areas. Wagner and Morrison, (1996) Soenen and Aggarwal (1989) had supported the similar concept in the past by stating "very little is

known about actual corporate practices in the area of cash and foreign exchange management, particularly outside the US”.

Although abundant research and theoretical development has been done in the area of investment and long-term finance but this gray area of short-term finance, in particular working capital management has been neglected for a very long time. Such neglect might have been acceptable, if working capital had a relatively little importance to the firm, but effective working capital management has a crucial role to play in enhancing the profitability and growth of the firm. Indeed, experience shows that inadequate planning and control of working capital is one of the more common causes of business failure. Pass and Pike (1984).

### **1.1.1 Working Capital Policy**

According to Harris (2005) Working capital management is a simple and straightforward concept of ensuring the ability of the firm to fund the difference between the short term assets and short term liabilities. Nevertheless, complete mean and approach preferred to cover all its company's activities related to vendors, customer and product. Hall, (2002).

Nowadays, working capital management is considered as the main central issues in the firms and financial managers are trying to identify the basic drivers and level of working capital management Lamberson, (1995).

Starting from the ratio of sales (turnover) and the working capital indexes, necessary working capital and net treasury, one can identify three policies of management operating cycle with different effects on profitability and risk:

- 1 Offensive/aggressive/attack policy
- 2 Defensive/ protective/prudential policy
- 3 Balanced/ optimal policy

Offensive policy is promoted by those managers who want to achieve a high turnover with minimum stocks implied. In this case, permanent capital absorbed in the physical or financial assets generates a working capital inferior to circulating assets during the year and for covering the deficit of working capital the company always calls on treasury credits. The strategy of funding the required working capital based on short-term bank loans involves some inconvenience. Toma (1994).

Protective/ defensive policy is practiced by conservative leaders who aim to achieve a high turnover with high stocks and liquidities. For any increase in turnover, managers are concerned about the adequate increase of stocks that ensure the continuity of exploiting activity (current and safety stocks). Financing the financial necessary of the exploitation is carried out especially from permanent resources (working capital) ensuring the company's solvency, but in the same time assuming a higher cost of resources in relation to that of short-term bank loans, but also a coverage of loans' renewal risk and of interest increase rate; in other words, although the policy is costly and less profitable, it is more conservative. Toma (1994).

Balanced policy has a neutral effect, because it is based on the principle of harmonization between the duration of temporal immobilization of circulating assets and the eligibility of

liabilities meant to cover the financing needs in terms of minimizing financing costs and the risks the company is facing. "According to this policy, the increase of the activity is done with a current stock adequate to the turnover increase; in turn, safety stock is determined at optimal level, i.e. at the level where there is equality between the costs due to the lack of stock (out of stock) and excessive costs (over the strict requirements of the operation)."

Onofrei M, (2006).

This policy is considered an equilibrium policy providing the best development of profitability and liquidity financial objectives: the diminishing of "lazy" Stancu I., (1996) reserves will increase profitability and reducing the short-term loan applications will increase the ability to pay, respectively the company's financial autonomy.

### **1.1.2 Financial Performance Measures**

Considering the importance of working capital management researchers focused on evaluating the working capital management and profitability relationship such as Uyar, (2009), Samiloglu and Demirgunes, (2008); among others. Other two studies focused on the relationship between profitability and working capital management. Profitability measures commonly used include the rate of return on assets (ROA), the rate of return on equity (ROE), the rate of return on investment deposits (ROD), and the capital-assets ratio (capitalization). Goudreau, (1992).

The rate of return on assets, ROA, is the most comprehensive accounting measure of overall performance. Since it is defined as net income over total assets, it shows the profit earned per

dollar of assets. It is an indicator of efficiency and a measure of the firm's ability to earn rent from its total operations. More important, it gauges how effectively a firm uses its financial and real investments to generate profits. Goudreau, (1992).

The return on equity is the most important measurement of all returns because it is influenced by how well the firm has performed on all other return categories, and indicates whether a bank can compete for private sources in the economy. Accounting ROE, defined as net income divided by average equity, measures a firm's accounting profits per dollar of book equity capital. However, accounting ROE should not be confused with investment profitability (or return) as measured by dividends and stock-price appreciation. Furthermore, ROE can be decomposed into a leverage factor (equity multiplier, EM) and return on assets (ROA). The equity multiplier (defined as assets divided by equity) is the reciprocal of the capital-to-asset ratio. It provides the gauge of a bank's leverage (debt-to asset ratio), or the dollar amount of assets pyramided on the bank's base of equity capital. Bashir, A. (1996). Whereas ROA measures profitability from the point of view of the overall efficiency of assets, ROE captures profitability from the shareholders' perspective.

A third measure of profitability is ROD. ROD is defined as net income divided by total investment deposits and shows the ability of the bank to compete for funds. ROD can be considered as the price, or the cost of attracting deposits. If the bank becomes more efficient in gathering deposits and transforming them into profitable investments, the dollar value of deposits becomes more valuable. To provide a more accurate measure of the firm's rent (profitability), previous studies have combined market data with accounting data to predict

growth opportunities (Keeley, 1990). An attractive theoretical measure to capture the market valuation is Tobin's Q, defined as the ratio of the firm's market value to the replacement cost of its assets. When market data is used, the replacement cost is assembled as the sum of the book value of liabilities and the market value of equity. Market valuation is predicted to be positively related to size.

### 1.1.3 Working Capital Management and Financial Performance

Smith (1980) suggests that working capital management is important because of its effects on a firm's profitability and risk, and consequently its value. Specifically, a more aggressive working capital policy (low investment in working capital) is associated with a higher return and risk, while a conservative working capital policy (high investment in working capital) supposes a lower return and risk. These effects on profitability and risk, therefore, suggest that firms might have an optimal working capital level that balances the costs and benefits of holding working capital and maximizes their profitability. Indeed, Deloof (2003) suggests that firms might have an optimal level of working capital that maximizes their value. The literature has demonstrated that there exist optimal levels of its individual components, such as accounts receivable Emery 1984a; Nadiri (1969), inventories Ouyang, Teng, Chuang, and Chuang (2005) and accounts payable Nadiri (1969).

However, previous research on working capital management and firm performance (Deloof 2003 among others), analyzes a linear relationship between investment in working capital and firm's profitability. The findings indicate that the lower the investment in working capital the more profitability, ignoring, for instance, the higher risk of loss of sales and interruptions in the production process, related with low levels of working capital.



Most of the empirical studies support the traditional belief about working capital and profitability that reducing working capital investment would positively affect the profitability of firm (aggressive policy) by reducing proportion of current assets in total assets. Deloof (2003) analyzed a sample of Belgian firms, and Wang (2002) analyzed a sample of Japanese and Taiwanese firms, emphasized that the way the working capital is managed has a significant impact on the profitability of firms and increase in profitability by reducing number of day's accounts receivable and reducing inventories. A shorter Cash Conversion Cycle and net trade cycle is related to better performance of the firms. Furthermore, efficient working capital management is very important to create value for the shareholders. Shin Soenen (1998) analyzed a sample of US firms also reported similar findings but have used Net Trading Cycle (NTC) as comprehensive measure of working capital management and found significant negative relationship between NTC and profitability. However, this relationship was not found to be very significant when the analysis was for specific industry (Soenen, 1993). Jose, et al. (1996) performed an industry wise analysis and measured the ongoing liquidity by Cash Conversion Cycle. Controlling industry and size differences they have concluded that more aggressive liquidity management is associated with higher profitability for several industries.

#### **1.1.4 Microfinance institutions in Kenya**

Microfinance is defined as the provision of financial services to the low income (those left out by the mainstream formal institutions). According to a survey of micro-finance carried out by the economist journal. (November 5<sup>th</sup> 2005), the rich households are well served by the vast formal financial institutions, the mainstream commercial banks, finance companies,

insurance companies and the international development institutions. The rich have many sources of capital to fund their businesses, have abundant consumer credits, mortgages at reasonable rates, insurance premiums that reflect the risk of losses, safe interest bearing savings accounts and cheap ways of transferring money. Kahindi, (2006)

In Kenya, financial institutions involved in microfinance include formal institutions (banks, non-bank financial institutions, licensed Savings and Credit Cooperatives (SACCOs)); semi-formal institutions (unlicensed SACCOs, non-governmental organizations); and informal institutions (Rotating Savings and Credit Associations (ROSCAs) and moneylenders). Deposit-taking MFIs are regulated by the Central Bank under the Microfinance Act of 2006. Regulations for licensing and supervising non-deposit taking financial institutions are under discussion. Under the SACCO Societies Act, SACCOs are regulated by the SACCO Societies Regulatory Authority (SASRA), which began operations in 2010. Under the new SACCO regulations, all deposit-taking SACCOs were required to apply for a SASRA license by June 17, 2011. Recent legislation has been passed related to branchless banking, including the following: Finance Act of 2010, which amends the Banking Act and Microfinance Act to allow for use of agents; Proceeds of Crime and Money Laundering Bill of 2009; and Guideline on Agent Banking of 2010.

Because MFIs are informally constituted on the line of rotating savings and credit associations (ROSCAs), club pools, and financial services associations (FSAs, MFIs working capital is dependent on donors, commercial banks, and government agencies from which they obtain funds or that support them should carry out due diligence and make informed

decisions about them. In the past, microfinance institutions (MFIs) established using either an NGO or a savings and credit co-operative societies framework have been important sources of credit for a large number of low income households and MSEs in the rural and urban areas of Kenya. The MFIs have, however, operated without an appropriate policy a solid working capital base. There is therefore need to focus more on these institutions to enhance their effectiveness in the provision of savings, credit and other financial services to the poor.

## **1.2 Research Problem**

The corporate finance literature has traditionally focused on the study of long-term financial decisions, particularly investments, capital structure, dividends or company valuation decisions. However, short-term assets and liabilities are important components of total assets and need to be carefully analyzed. Management of these short-term assets and liabilities warrants a careful investigation since the working capital management plays an important role in a firm's profitability and risk as well as its value Smith, (1980). Working capital management (WCM) is therefore of particular importance to MFIs.

Microfinance institutions (MFIs) generally raise capital denominated in hard currencies (U.S. Dollars, Euros, etc.). However, MFIs must lend these funds in their local currency, immediately creating foreign exchange rate risk. Furthermore, these institutions operate primarily in developing countries where the risk of local currency devaluation is the highest. These risks prevent access to many potential funding sources, including debt capital. Foreign exchange risk management remains a significant problem for any international financial institution, but the problem is much greater for MFIs that are forced to borrow abroad and

operate in an unstable economic environment, preventing access to many potential funding sources. In Kenya the current squeeze on cash and credit is threatening the survival of many MFIs. The fact that MFIs cannot exist without working capital is thus, undeniable. Eventually MFIs should recognize the fact that the management of working capital (WCM) necessitates short term decisions in working capital (WC) and financing of all aspects of both MFI's short-term assets and liabilities with the main objective of ascertaining that the MFI has the ability to continue operating with sufficient cash flow for payment of both maturing short-term debt and impending operational expenses.

Although working capital is an important ingredient in the smooth working of business entities, it has not attracted much attention of scholars. Whatever studies have conducted, those have exercised profound influence on the understanding of working capital management. A good number of these studies which pioneered work in this area have been conducted abroad, following which studies have been documented on financial ratios as a part of working capital ratios as a part of working capital management. However, very few have discussed working capital policies in specific. Some worked by Gupta (1969) and Gupta and Huefner (1972) examined the differences in financial ratio averages between industries. Johnson (1972) examined the differences in financial ratio averages between industries. Johnson (1970) extended this work by finding cross-sectional stability of ratio groupings for both retailers and primary manufacturers.

In Kenya, Ngaba (1990) studied on working capital management practices in Kenyan secondary schools, a case of Kikuyu division, Kiambu district. Nyakundi did a survey of

working capital management practices among public companies in Kenya. Kithii, (2008) carried out a study on the relationship between working capital management and profitability of listed companies in the Nairobi Stock Exchange. Mutungi (2010) carried out a study on the relationship between working capital management practices and financial performance in Oil Marketing firms in Kenya. It is evident that no study has been done on working capital management policies and financial performance in MFIs especially those in the business of deposit taking. This study therefore endeavors to determine the relationship between working capital management policies and financial performance among deposit taking MFIs in Kenya. Specifically the study will answer the following research questions:

What is the relationship between working capital management and profitability in deposit taking Micro Finance Institutions in Kenya?

### **1.3 Objectives**

The objectives of this study are:

1. To establish the working capital management policies among Micro finance Institutions with a bias towards deposit taking institutions in Nairobi.
2. To examine the relationship between working capital management and profitability in deposit taking Micro Finance Institutions in Nairobi.

### **1.4 Value of the Study**

This study will help strengthen the large microfinance sector by providing information on the working capital management policies in regard to the performance of microfinance institutions in Kenya. The deposit taking MFIs in Kenya can use the information to be able to

improve on their mode of delivery to strengthen their stand against other MFIs especially the Small sized non deposit taking MFIs.

Finance controllers and managers have a major role to manage their working capital and cost structure in order to drive the company performances for the survival of the organization. This research will provide a guideline on whether companies can perform well if the working capital is efficient and cost structures are managed well. The study will also help scholars to improve on literature on capital management policies in Kenya and to provide further guidance in filling in the gaps on further studies.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1. Introduction

The purpose of this chapter is to present a review of literature relating to the working capital management. The chapter reviews the literature that has been done in the field of working capital management both locally and internationally.

#### 2.2 Theoretical Review

Working capital, also referred to as net working capital (NWC), is therefore an absolute measure of a company's current operative capital employed and is defined as:

(Net) working capital = Current assets – Current liabilities

Net working capital is the capital required in the short term to run a business. Working capital management involves short term asset accounts such as cash, inventory and accounts receivable as well as short term liability accounts such as accounts payable Berk , DeMarz, Harford (2009)

Current assets are assets which are expected to be sold or otherwise used within one fiscal year. Current liabilities are considered as liabilities of the business that are to be settled in cash within the fiscal year. Current liabilities include accounts payable for goods, services or supplies, short-term loans, long-term loans with maturity within one year, dividends and interest payable, or accrued liabilities such as accrued taxes. [www.gfinance.com](http://www.gfinance.com)

According to Harris (2005) Working capital management is a simple and straightforward concept of ensuring the ability of the firm to fund the difference between the short term

assets and short term liabilities. Nevertheless it is a complete mean and average approach preferred to cover all its company's activities related to vendors, customer and product.

### **2.2.1 Operating Cycle Theory**

The operating cycle theory looks explicitly at one side of working capital that of current asset accounts and therefore gives income statement measures of firm's operating activities, that is, about production, distribution and collection. Receivables, for instance, are directly affected by the credit collection policy of the firm and the frequency of converting these receivables into cash matters in the working capital management. By granting the customers more liberal credit policy, the profitability will be increased but at the same time liquidity will be sacrificed. The same analysis goes for other components of current asset account. However, the operating cycle theory tends to be deceptive in that it suggests that current liabilities are not important in the course of firm's operation. Our understanding of payables as the sources of financing the firm's activities can be assailed as a result. Given this inadequacy of the operating cycle theory, it is essential to infuse current liabilities in the picture to enhance our analysis and understanding.

### **2.2.2 Cash Conversion Cycle Theory**

It is the cash conversion cycle theory integrates both sides of working capital. In their seminal paper, Richards and Laughlin (1980) devised this method of working capital as part of a broader framework of analysis known as the working capital cycle. It claims that the method is superior to other forms of working capital analysis that rely on ratio analysis or a decomposition of working capital as claimed above. The CCC is calculated by subtracting



the payables deferral period ( $360/\text{annual payables turnover}$ ) from the sum of the inventory conversion period ( $360/\text{annual inventory turnover}$ ) and the receivables conversion period ( $360/\text{annual receivables turnover}$ ). More recently, the number of days per year that appears in the denominator as 360 has been replaced by 365 to improve accuracy. Since, each of these three components is denominated by some number of days, the CCC is also expressed as a number of days. It has been interpreted as a time interval between the cash outlays that arise during the production of output and the cash inflows that result from the sale of the output and the collection of the accounts receivable.

### **2.3 Working Capital Management**

According to Van Horne (1977), working capital management is the administration of current assets in the name of cash, marketable securities, receivables, and inventories. Osisioma (1997) described working capital management as the regulation, adjustment, and control of the balance of current assets and current liabilities of a firm such that maturing obligations are met, and the fixed assets are properly serviced. In order to manage working capital efficiently, there must exist two elements as necessary components and desirable quantities. Osisioma (1997) demonstrated that good working capital management must ensure an acceptable relationship between the different components of a firm's working capital so as to make an efficient mix, which will guarantee capital adequacy. Thus, working capital management should make sure that the desirable quantities of each component of the working capital are available for management. However the question is "What determines the necessary components of a firm's working capital and how much of such necessary components can be regarded as adequate or desirable?"

The necessary components of an organization's working capital, basically, depend on the type of business and industry. Cash, debtors, receivables, inventories, marketable securities, and redeemable futures can be recognized as the common components of organization's working capital. However, the question is to recognize the factors that determine the adequacy of working capital based on growth, size, operating cash flow, etc. The inability to understand the determining factors and measurement of adequate amounts of working capital will lead an organization to bankruptcy.

Many exiting research papers have found that managers spend a considerable time on day-to-day working of capital decisions since current assets are short-lived investments that are continually being converted into other asset types Rao, (1989). In the case of current liabilities, the firm is responsible for paying obligations mentioned under current liabilities on a timely basis. Liquidity for the on-going firm is reliant, rather, on the operating cash flows generated by the firm's assets Soenen, (1993).

#### **2.4 Importance of Working Capital Management**

Working capital management is a very important component of corporate finance because it directly affects the liquidity and profitability of the company. It deals with current assets and current liabilities. Working capital management is important due to many reasons. For one thing, the current assets of a typical manufacturing firm accounts for over half of its total assets. For a distribution company, they account for even more. Excessive levels of current assets can easily result in a firm's realizing a substandard return on investment. However firms with too few current assets may incur shortages and difficulties in maintaining smooth operations Home and Wachowicz, (2000).

Efficient working capital management involves planning and controlling current assets and current liabilities in a manner that eliminates the risk of inability to meet due short term obligations on the one hand and avoid excessive investment in these assets on the other hand Eljelly, (2004). Many surveys have indicated that managers spend considerable time on day-to-day problems that involve working capital decisions. One reason for this is that current assets are short-lived investments that are continually being converted into other asset types (Rao 1989). With regard to current liabilities, the firm is responsible for paying these obligations on a timely basis. Liquidity for the ongoing firm is not reliant on the liquidation value of its assets, but rather on the operating cash flows generated by those assets Soenen, (1993). Taken together, decisions on the level of different working capital components become frequent, repetitive, and time consuming. Working Capital Management is a very sensitive area in the field of financial management Joshi, (1994). It involves the decision of the amount and composition of current assets and the financing of these assets. Current assets include all those assets that in the normal course of business return to the form of cash within a short period of time, ordinarily within a year and such temporary investment as may be readily converted into cash upon need. The Working Capital Management of a firm in part affects its profitability.

The ultimate objective of any firm is to maximize the profit. But, preserving liquidity of the firm is an important objective too. The problem is that increasing profits at the cost of liquidity can bring serious problems to the firm. Therefore, there must be a tradeoff between these two objectives of the firms. One objective should not be at cost of the other because both have their importance. If we do not care about profit, we cannot survive for a longer period. On the other hand, if we do not care about liquidity, we may face the problem of

insolvency or bankruptcy. For these reasons working capital management should be given proper consideration and will ultimately affect the profitability of the firm.

### 2.5 Working Capital Management Policies and Profitability

Shin and Soenen (1998) used Net Trade Cycle (NTC) as a measure of working capital management in order to investigate the relationship between working capital management and profitability. The NTC is calculated as  $(\text{inventory} + \text{accounts receivable} - \text{accounts payable}) \times 365 / \text{Sales}$  and represents the number of "days sales" that the company has to finance its working capital under ceteris paribus conditions. Additionally it can provide an easy estimate for additional financing needs with regard to working capital as a function of the sales growth. For these reasons they used the NTC as a measure of working capital management and found a negative relation between the length of the firm's trade cycle and its profitability Shin and Soenen, (1998:37-38).

On the other hand, it is possible to say that the most popular measure of working capital management is the Cash Conversion Cycle (CCC). The CCC refers to the number of days between the expenditure of the firm's cash for the purchase of raw materials and the collection of cash from product sales Sathyamoorthi and Wally-Dima, (2008:12). Deloof (2003) investigated the relationship between working capital management and firm profitability by using CCC as a measure of working capital management. He calculated CCC as  $(\text{number of days accounts receivable} + \text{number of days inventory} - \text{number of days accounts payable})$  and found a significant negative relation between gross operating income and the number of days accounts receivable, inventories and accounts payable by using a sample of 1009 large Belgian non-financial firms for the 1992-1996 period. So he suggests

that managers can create value for their shareholders by reducing the number of days accounts receivable and inventories to a reasonable minimum. Lazaridis and Tryfonidis (2006) found a negative relationship between profitability and CCC for 131 listed companies listed in Athens Stock Exchange for the period 2001 -2004. Similar to the results of these studies focused on large firms, the findings of Garcia-Ieruel and Martinez-Solano (2007) also indicates negative relationship between profitability and CCC for small and medium sized firms from Spain.

Zariyawati et al. (2009) investigated the relationship between CCC and profitability for the Malaysian firms for the period 1996-2006. And their findings are consistent with the aforementioned studies.

## **2.6 Empirical Evidence**

Many researchers have studied working capital from different views and in different environments. The following ones were very interesting and useful for our research: (Eljelly, 2004) elucidated that efficient liquidity management involves planning and controlling current assets and current liabilities in such a manner that eliminates the risk of inability to meet due short-term obligations and avoids excessive investment in these assets. The relation between profitability and liquidity was examined, as measured by current ratio and cash gap (cash conversion cycle) on a sample of joint stock companies in Saudi Arabia using correlation and regression analysis. The study found that the cash conversion cycle was of more importance as a measure of liquidity than the current ratio that affects profitability. The size variable was found to have significant effect on profitability at the industry level. The results were stable and had important implications for liquidity management in various Saudi

companies. First, it was clear that there was a negative relationship between profitability and liquidity indicators such as current ratio and cash gap in the Saudi sample examined. Second, the study also revealed that there was great variation among industries with respect to the significant measure of liquidity.

Padachi (2006) has conducted a study to examine trends in working capital management and its impact on firms' performance. He performed his study by using different variables like profitability is a dependent variable and account receivable ratio in number of days, account payable ratio in number of days, inventory turnover ratio in number of days, and cash conversion cycle are independent variables. Size, gearing ratio, gross working capital turnover ratio, current assets to total assets ratio are included in control variables. His study showed that the management of various components of working capital has a positive impact on profitability.

Vedavingayag and Gamesan (2007) have elucidated a study of working capital efficiency by using variables, day's sale outstanding, day's inventory outstanding, days payable outstanding, days working capital, current ratio, cash conversion efficiency, income to total assets and income to sale. They found that there is a negative relationship between working capital management and profitability and liquidity.

Samiloglu and Demirgunes (2008) have performed study to analyze the effect of working capital management on firm profitability by taking manufacturing companies as a sample of listed on Istanbul stock exchange. Different variables used in this study like return on asset is dependent variable and account receivable period, inventory period, cash conversion cycle are independent variables. Firm size growth, leverage and fixed financial assets to total assets

are control variables. They found that account receivable period, inventory period and leverage significantly and negatively affect profitability of the firms, while firm growth significantly and positively. Their study also showed that cash conversion cycle, size and fixed financial assets to total assets have no significant effect on profitability of the firms.

Afza and Nazir (2009) documented a study that aggressive or conservative working capital management is better. They used different variables like as Return on Assets of Firm, Return on Equity of Firm, Value of Firm, Total Current assets to Total Assets Ratio of Firm and Total Current Liabilities to Total Assets Ratio of Firm. They found that a new measure of profitability i.e. Tobin's q to estimate the relationship of working capital management and firm returns in Pakistan, the present study is expected to be a significant contribution in finance literature. Moreover, theoretical discussion on risk and working capital management has also been tested on empirical basis in an emerging market of Pakistan. Although the results of present study are in contradiction to some earlier studies on the issue, yet, this phenomenon may be attributed to the inconsistent and volatile economic conditions of Pakistan. The reasons for this contradiction may further be explored in upcoming researches and this topic is left for future.

Dong (2010) reported that the firms' profitability and liquidity are affected by working capital management in his analysis. Pooled data are selected for carrying out the research for the era of 2006-2008 for assessing the companies listed in stock market of Vietnam. He focused on the variables that include profitability, conversion cycle and its related elements and the relationship that exists between them. From his research it was found that the relationships among these variables are strongly negative. This denotes that decrease in the

profitability occur due to increase in cash conversion cycle. It is also found that if the number of days of account receivable and inventories are diminished then the profitability will increase numbers of days of accounts receivable and inventories.

Gill, Biger and Mathur (2010) examined the relationship between the working capital management and profitability in the United States by taking sample of 88 firms listed on New York stock exchange. For this purpose they took in consideration these variables. Profitability is a dependent variable and account receivable in number of days, account payable in number of days, inventory turnover number of days, and cash conversion cycle are independent variables. Size of the firms, fixed assets ratio and financial debt ratio are control variables. Their study documented that there is a significant relationship between cash conversion cycle and profitability. Management can create value for firms by appropriate handling of cash conversion cycle.

Rehman Afza, Qayyum, and Bodla (2010) conducted a study on working capital management and corporate performance of manufacturing sector in Pakistan for a period of 1998 to 2007 by taking panel data of 204 firms listed on KSE. They took in consideration these variables. Net operating Profitability is a dependent variable. Average collection period, inventory Turnover in no of days, Average payment period, cash conversion cycle and net trading cycle of the firm are independent variables are Gross working capital turnover Ratio, current assets to total assets Ratio, current Liability to total assets Ratio and Financial debt Ratio. Size of the firm, sales growth and current Ratio are controlled variables. The results show that for overall manufacturing sector, Working capital management has a



Significant impact on profitability and play a vital roll in value creation of shareholders as longer cash conversion cycle and net trade cycle have negative impact on profitability.

In Kenya Ngaba (1990) did a research on working capital management practices in Kenyan secondary schools using a case study of secondary schools of Kikuyu division then. A questionnaire was used to collect data. The findings were that there was preparation of cash budgets. The major source of cash was fees and cash collections were banked daily. In receivables management, to remind students of overdue debts, letters were sent to their parents and that the school head was responsible for management of working capital. The study concluded that there seems to be lack of professionalism in some areas of management of school finances. This calls for qualified personnel to be employed in the management of school finances considering the huge expenditure involved in education.

Mogire (2003) studied working capital management among thirty public companies listed at the Nairobi Stock Exchange as at 31<sup>st</sup> December 2002. The objectives of the study were to determine the effects of profitability to companies, to investigate whether there is significant relationship between working capital management policy and the profitability of a company as measured by the return on equity and to establish if public companies in different sectors in Kenya follow different working capital management policies. Simple regression analysis was done to establish the relationship between working capital policy and return on equity. The results of the analysis showed that the commonly practiced working capital management policy among the public companies in Kenya is the aggressive approach policy and that there were no significant differences between the working capital management practices across the five sectors. Also there were no significant differences in return on equity among companies

that practice different working capital management policies. The regression analysis also showed that the working capital management policy explained only fifty three percent of the variation in return on equity.

Kiprono (2004) studied the relationship between cash flows and earnings performance measures for companies listed in the NSE (Nairobi Stock Exchange). His objective was to determine the relationship between risk and return on assets (ROA), return on equity (ROE) and return on net assets (RONA) against the cash flows of firms. To achieve this, regression analysis was employed on thirty companies listed at the NSE. The companies were picked randomly and were analyzed for the five year period between 1998 and 2003. He concluded that there is a positive or direct association between cash flows from operating activities and all the return performance indicators. The results also showed that there is a negative relationship or indirect association between cashflows from financing and investing activities and returns performance indicators. On overall, there is a weak relationship between cash flows and performance indicators. However he noted it is important to determine the impact of firm size in cash flows and earning performance indicators.

Mathuva (2009) studied the impact of working capital management on the performance. He took almost 30 listed firms as a sample and all these companies were listed in Nairobi stock exchange and the data was taken from 1993 to 2008. There were certain findings of his research by analyzing the fixed effects regression models. Firstly, there is a negative relationship between the time when the cash is collected from the customers and the firm's productivity. This depicts, firms that are more profitable enjoys less time period for the collection of cash from the customers as compare to ones which are less profitable.

## **2.7 Conclusion of Literature Review**

This chapter reviewed theoretical and empirical literature on the relationship between working capital management and firm performance. The empirical review reveals that many researchers have studied working capital from different views and in different environments.

Studies in Kenya revealed the following gaps: Ngaba (1990) did a research on working capital management practices in Kenyan secondary schools using a case study of secondary schools of Kikuyu division while Kiprono (2004) studied the relationship between cash flows and earnings performance measures for companies listed in the NSE Mathuva (2009) studied the impact of working capital management on firm performance. While these studies were all relevant to the current study, none of them did an empirical analysis of the relationship between working capital management policies and firm performance.

Finally of these studies, none has been conducted so far on DIMs and in respect to working capital management policies and their relationship on the financial performance.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter outlines the methodology which was used in carrying out the study. Aspects covered include research design, population & sampling design, data collection methods, data analysis methods and testing of data validity & reliability.

#### **3.2 Research Design**

This study employed a descriptive design to explain the relationship between working capital policies and profitability. Cooper and Schindler (2011) defines descriptive studies as those studies whose objective is to explain a phenomenon, to estimate a proportion of a population with similar characteristics and to discover associations among different variables. The descriptive design was appropriate as it sought to ascertain the determination of factors influencing the relationship between profitability and working capital management among deposit taking MFIs in Kenya.

#### **3.3 Population**

The population of this study comprised of all deposit taking MFIs in Kenya as at 2011. There are six such MFIs in Kenya CBK (2011). (See appendix I list of MFIs), thus the study was a census.

### **3.5 Data Collection**

This study used secondary data, which was retrieved from the MFIs annual financial statements. The study period was one year, 2011. Since the study was based on financial data, the main source of data was the financial statements: statement of comprehensive income, statement of financial position, and cash flow statements.

### **3.6 Data Analysis**

The study used multiple linear regression equation and the method of estimation was Ordinary Least Squares (OLS) so as to establish the relationship between working capital and performance.

#### **Model Specification**

The economic model used in the study is given was:

$$Y = \beta_0 + \beta_1 F_{it} + \epsilon_{it}$$

Where, Y is the dependent variable,  $\beta_0$  is constant,  $\beta_1, 2, 3, 4$  is the coefficient of the explanatory variable (working capital attributes), and  $\epsilon_{it}$  is the error term assumed to have zero mean and independent across time period. From the economic model in the equation above, equation below evolved:

#### **3.6.1 Analytical Model**

In order to understand the relation that existed between the management of the operating cycle and profitability we calculated the following indicators for the companies in the sample: This study used panel data regression analysis of cross-sectional and time series data.

In order to understand the relation that existed between the management of the operating cycle and profitability we calculated the following indicators for the companies in the sample:

This study used panel data regression analysis of cross-sectional and time series data

$$y = \beta_0 + \beta_1 (DTD) + \beta_2 (CPD) + \beta_3 (WCC) + \beta_4 (ATO) + \varepsilon$$

ROA = Return on Assets

DTD = Debtors Turnover Days

CPD = Creditors Payable Days

WCC = Working Capital Cycle

ATO = Admin overheads Turnover

Y = ROA

Correlation analysis was used to determine whether the values of two variables were associated. The two variables should be random samples, and should have a Normal distribution (possibly after transformation). Pearson's Correlation analysis was used for data to see the relationship between variables such as those between working capital management and profitability. If efficient working capital management increases profitability, one should expect a negative relationship between the measures of working capital management and profitability variable.

## CHAPTER FOUR

### DATA ANALYSIS, FINDINGS AND DISCUSSIONS

#### 4.1 Introduction

This chapter presents the results of data analysis, findings and discussions derived from the study.

#### 4.2 Descriptive Statistics

The study relied solely on secondary panel data which was extracted from the Deposit taking MFIs annual financial statements for the year ending December 2011. The populations of companies under study were all the six (6) Deposit Taking MFIs (DTMs) licensed by the CBK. The objective of the study was to examine the relationship between working capital management policies and profitability in deposit taking Micro Finance Institutions. The independent variables of the study were DTD = Debtors Turnover Days, CPD = Creditors Payable Days, WCC = Working Capital Cycle and ATO (Admin overheads Turnover) while the dependent variable was ROA. The annual financial reports available at the CBK were however for the year 2011. Data was captured in Ms Excel and SPSS for analysis. The relationship between working capital management policies and profitability is examined using correlation and regression analyses. ANOVA analysis is done to study the relationship between ROA and aspects of capital management policies.

Below is an analysis of descriptive statistics for the study

**Table 4.1 Descriptive Statistics**

<b>Descriptive Statistics</b>					
	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>ROA</b>	6	.01503	.16949	.0728863	.05561679
<b>DTD</b>	6	14.038	109.728	72.66783	38.096113
<b>CPD</b>	6	.000	9125.000	1958.03967	3537.502875
<b>WCC</b>	6	258.937	10077.538	2764.01167	3683.778796
<b>ATO</b>	6	190.500	1842.876	733.30417	608.596762
<b>Valid N (list wise)</b>	6				

**Source: Research Findings 2012**

The Table 4.1 above represents the descriptive statistics for the components of working capital management policies. The variables are as follows; DTD = Debtors Turnover Days, CPD = Creditors Payable Days, WCC = Working Capital Cycle, ATO (Admin overheads Turnover) while the dependent variable was ROA.

The higher standard deviation of 3683.778796 days for WCC indicates a wide variation in WCC among the MFIs. This WCC mean of 2764.01167 days indicates that the MFIs have very high days of working capital. From the analysis it is also observed that the other components of working capital – ATO and CPD – have very large standard deviations that indicate a wide variation in managing these components by the MFIs. However the DTD mean of 72.66783 days indicates that while the debt portfolio is managed fairly well the large



difference in ATO and CPD indicates that the MFIs have not managed Admin costs and creditor days well and this is the contributor for the increased mean of the WCC.

### **4.3 Correlation Analysis**

The descriptive statistics show the working capital measures and its variations among the MFIs. The correlation analysis is done to analyze the association between the working capital management policies and profitability. To examine the relationship among these variables, Pearson correlation coefficients are calculated. The Table 4.2 shows the correlation matrix with Pearson correlation coefficients. The P-values are listed in the table.

**Table 4.2. Pearson Correlation Matrixes**

		Correlations				
		ROA	DTD	CPD	WCC	ATO
ROA	Pearson Correlation	1	-.333	-.304	-.405	-.667
	Sig. (2-tailed)		.519	.558	.425	.148
	N	6	6	6	6	6
DTD	Pearson Correlation	-.333	1	-.677	-.610	.184
	Sig. (2-tailed)	.519		.139	.199	.727
	N	6	6	6	6	6
CPD	Pearson Correlation	-.304	-.677	1	.986(**)	.199
	Sig. (2-tailed)	.558	.139		.000	.705
	N	6	6	6	6	6
WCC	Pearson Correlation	-.405	-.610	.986(**)	1	.359
	Sig. (2-tailed)	.425	.199	.000		.485
	N	6	6	6	6	6
ATO	Pearson Correlation	-.667	.184	.199	.359	1
	Sig. (2-tailed)	.148	.727	.705	.485	
	N	6	6	6	6	6

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

**Source: Research Findings 2012**

Since efficient working capital management is expected to improve a company's profitability and liquidity, WCC should be negatively correlated to DTD, CPD and ATO. The correlation coefficients from Table 4.2 indicate that there is statistical evidence that the DTD is

negatively related to WCC. However even though WCC is negatively correlated, the statistical evidence is not significant. This means that DTD and ATO are not significantly correlated to the WCC. One possible reason for this is that the total asset includes the fixed assets of the MFIs.

#### 4.4 Regression Analysis

Simple linear regression analysis was done investigate further, the association between the working capital measures and the ROA. The profitability measure ROA is the dependent variable and working capital management measures (DTD = Debtors Turnover Days, CPD = Creditors Payable Days, WCC = Working Capital Cycle, ATO (Admin overheads Turnover) are the independent variables. The following table gives the results of the regression analysis that shows the slope and the corresponding Beta coefficients.

**Table 4.3 Regression Analysis**

Model		Unstandardized Coefficients		Standardized Coefficients	t		95% Confidence Interval for B	
		B	Std. Error	Beta	Lower Bound	Upper Bound	B	Std. Error
1	(Constant)	.203	.067		3.058	.092	-.083	.489
	DTD	-.001	.001	-.774	-1.407	.295	-.005	.002
	CPD	-1.19E-005	.000	-.754	-1.365	.305	.000	.000
	ATO	-3.42E-005	.000	-.375	-.907	.460	.000	.000

a. Dependent Variable: ROA

Source: Research Findings 2012

According to table 4.3 above, the regression analysis results indicate that there is evidence that the ROA is negatively associated with WCC. However, even though the ROA measure is negatively associated with the WCC, the association is significant. This means that there is a significant predictability of ROA using WCC. The results also indicate that there is evidence that the profitability measure - ROA is negatively related to the WCC, DTD, CPD and ATO. However the association is not significant enough to predict profitability because of the negative correlation. This means that effect of managing working capital is significant enough to impact the profitability measures. This result is consistent with the correlation analysis. The reason for a negative relationship could be proportions of account receivables reduced by WCM management activities are much less when compared to the total assets and the sales made. Hence, there is evidence that in the DTMs industry, either account receivables management is poor or the fixed asset is disproportionately large when compared to the current assets.

#### 4.5 Coefficient of determination

**Table 4.4 Model Summary for R square**

Model Summary(b)										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
	R Square Change	F Change	df1	df2	Sig. F Change	R Square Change	F Change	df1	df2	Sig. F Change
1	.858(a)	.736	.341	.04514195	.736	1.863	3	2	.368	2.255
a Predictors: (Constant), ATO, DTD, CPD										
b Dependent Variable: ROA										

Source: Research Findings 2012

The r-square (adjusted) is -.858 this means that 85.8% percent of the relationship has been explained. Larger values for r-square indicate stronger relationship — because it indicates the proportion of variation in the dependent variable explained by regression model. The model therefore fits the data well. The level of significance change for F 0.736 initially indicates that there is a significant relationship between working capital management policies and profitability (ROA).

**4.6 ANOVA (Analysis of Variance)**

Single factor Analysis of variance is done on the four components of working capital management – WCC, DTD, CPD and ATO to find if the means of the working capital management components are significantly different. The following table gives the results of the ANOVA analysis.

**ANOVA (Analysis of Variance)**

**Table 4.5 Results of ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.011	3	.004	1.863	.368(a)
	Residual	.004	2	.002		
	Total	.015	5			
a Predictors: (Constant), ATO, DTD, CPD						
b Dependent Variable: ROA						

The residual sum of squares is nearly equal to that of the total sum of squares indicates that there are no major unexplained sources of variation. The results of this analysis indicate that there is significant evidence that means of the working capital management components widely vary. This means that approaches used by the MFIs, with respect to managing working capital significantly vary within the six DTMs. The level of significance for F 0.368 initially indicates that there is a significant relationship between working capital management policies and ROA.

#### **4.7 Interpretation of Findings**

The objective of this analysis was to examine the relationship between working capital management policies and profitability in deposit taking Micro Finance Institutions (DTMs) in Kenya. This study used Descriptive Statistics (mean and standard deviation) to test the relationship between working capital and ROA. Very large standard deviations were observed indicating a wide variation in managing these components by the MFIs possibly arising out of the size of the various firms. From the findings the mean for Debtors Turnover Days (DTD) indicated that while the debt portfolio is managed fairly well the large difference in Admin overheads Turnover and Creditors Payable Days showed that the MFIs have not managed payables and overhead costs well and this is the contributor for the increased mean of the WCC.

To examine the relationship among these variables, Pearson correlation coefficients was used. The results also indicate that there is evidence that the profitability measure - ROA is negatively related to the WCC, DTD, CPD and ATO. However the association is not

significant enough to predict profitability because of the negative correlation. This means that the effect of managing working capital is significant enough to impact the profitability measures. The reason for a negative relationship could be proportions of account receivables reduced by WCM management activities are much less when compared to the total assets and the sales made. Hence, there is evidence that in the DTMs industry, either account receivables management is poor or the fixed asset is disproportionately large when compared to the current assets.

These findings are in agreement with the study by Padachi who examined trends in working capital management and its impact on firms' performance. His study showed that the management of various components of working capital has a positive impact on profitability. This analysis confirms that there is statistical evidence that the DTD is negatively related to WCC. This concludes that the total asset includes the fixed assets of the MFIs. This implies that profitability can be improved by reducing the DID or by keeping debtors for lesser time can improve profitability of firm. These findings can be attributed to those by Dong who reported that the firms' profitability and liquidity are affected by working capital management in his analysis. In his study the variables he tested it was found that the relationships among these variables are strongly negative. This denotes that decrease in the profitability occur due to increase in cash conversion cycle. It is also found that if the number of days of account receivable and inventories are diminished then the profitability will increase numbers of days of accounts receivable and inventories.

The regression analysis results indicate that there is evidence that the ROA is negatively associated with WCC. However, even though the ROA measure is negatively associated with the WCC, the association is significant. This means that there is a significant predictability of ROA using WCC. The results also indicate that there is evidence that the profitability measure - ROA is negatively related to the WCC, DTD, CPD and ATO.

The results of all regressions models suggest that managers can increase the ROA by reducing all the related components: WCC, DTD, CPD and ATO or ultimately decreasing the gross working capital turnover ratio, debtor's turnover ratio, and creditor's payable days of the firm. On the other side However this is contrary to Mogire who used a simple regression analysis to establish the relationship between working capital policy and return on equity. The results of the analysis showed that the commonly practiced working capital management policy among the public companies in Kenya is the aggressive approach policy and that there were no significant differences between the working capital management practices.

Several policy implications can be drawn from the above findings of the study which include that working capital management should be the concern of all the MFIs. The collection and payment policies of the firms in the DTMs, in general, need to be thoroughly reviewed. It is generally argued that firms need to accelerate their cash collections and slowdown their payments. This can only be possible with some professional advice and supervision. The findings indicate that MFIs can enhance performance by reducing the number of days in the Net Operating Cycle to a reasonable minimum.

Working capital management is highly important in firms as it is used to generate higher returns for the stakeholders; however, it has not elicited much attention from researchers and



practitioners. When the working capital requirements are not properly managed and are allocated more than required, it renders the management inefficient and reduces the benefits of short-term investments.

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter gives a summary of the study findings. It also presents the limitations and recommendations for further research. The data were analyzed by use of SPSS package to produce the correlation as well as regression analysis. Tables were used to describe the data and draw conclusions on the findings.

#### 5.2 Summary

This study findings indicates that the there is a significant relationship between working capital management policies and ROA. However there was a negative correlation between WCC, DTD, CPD and ATO and ROA. This means that no single component significantly contributes to the working capital management of the sample MFIs. For efficient working capital management, the level of ATO should be lower and CPD should be higher. The opposite is observed in the sample MFIS by this analysis. Higher difference between DTP and CPD indicate that there is poor management of both. This may be due to the fact that MFIs are unable to set strict collection policies and revenues are made by higher credit sales. Also the MFIs are unable to negotiate and get better credit from their creditors to reduce the CPD.

Following is result of the ANOVA analysis. The analysis of results indicates that there is no significant difference between the ROA and WCM policies. This means that even though reducing the ATO gives better profit margin, the working capital management is not efficient enough to bring ROA margin at significant level.

These study findings are in line with those of Padachi who conducted a study to examine trends in working capital management and its impact on firms' performance. His study showed that the management of various components of working capital has a positive impact on profitability. However Vedavingayag and Gamesan in a similar study of working capital efficiency found that there is a negative relationship between working capital management and profitability and liquidity and Dong who reported that the firms' profitability and liquidity are affected by working capital management in his analysis. From his research it was found that the relationships among these variables are strongly negative. This denote that decrease in the profitability occur due to increase in cash conversion cycle. It is also found that if the number of days of account receivable and inventories are diminished then the profitability will increase numbers of days of accounts receivable and inventories.

### **5.3 Conclusions**

Analysis of working capital management policy was done on the sample of 6 DTMs. The analysis was done to find statistical evidence to support the two objectives.

From the analysis, it is evident that there exists, working several working capital policies among the six DTMs that were studied. This is due to the existence of data available to support the working capital components being studied. However, due to the diflerence in size of the DIMs and period of existence, then different working capital policies are in play depending on the institutions.

It is found that significant statistical evidence exists to support the objective that the working capital management is negatively associated to the profitability (ROA). When the working capital management efficiency is improved by decreasing days of working capital, there is improvement in profitability of the MFIs in terms of ROA. It is observed that there is no significant statistical evidence to support the hypothesis that the MFIs treat the four components (WCC, DTD, CPD and ATO) of WCM equally.

Overall there is evidence that the working capital management efficiency in the DTMs is poor. It is recommended that the industry should improve working capital management efficiency by concentrating on reducing inventory and improving DTD by getting more credits from depositors.

#### **5.4 Recommendations for Policy**

The working capital meets the short-term financial requirements of a business enterprise. It is the investment required for running day-to-day business. It is the result of the time lag between the expenditure for the purchase of raw materials and the collection for the sales of finished products. The components of working capital are inventories, accounts to be paid to suppliers, and payments to be received from customers after sales. Financing is needed for receivables and inventories net of payables.

The proportions of these components in the working capital change from time to time during the trade cycle. The working capital requirements decide the liquidity and profitability of a firm and hence affect the financing and investing decisions. Lesser requirement of working capital leads to less need for financing and less cost of capital and hence availability of more cash for shareholders. However the lesser working capital may lead to lost sales and thus may affect the profitability.

It is recommended that the management of working capital by managing the proportions of the WCC components (DTD, CPD and AIO) is important to the financial health of MFIs. To reduce accounts receivable, an MFI may have use strict collections policies and limited sales credits to its customers. This would increase cash inflow. Maximizing account payables by having longer credits from the creditors also has the chance of getting increased interest rates from creditors that would ultimately affect the profitability. The working capital management should therefore aim at having balanced optimal proportions of the WCC components to achieve maximum profit and cash flows.

### **5.5 Limitation of the Study**

This study was carried out based on secondary data available from the central bank of Kenya. It assumed that the financial reports were accurate and that all disclosures were made by the finance managers and accountants. In the study it was assumed that the finance managers actually understand the importance of working capital strategy and therefore have a sound one. This may not be true in some cases

During the study, it was noted that there were new entrants into the deposit taking institutions in 2010, thus greatly limiting the availability of data for the year 2010, for the new entrants. As a result, the only data available to complete the study for all the Six DTMs was data for the year ending 2011. There were also noted firms previously listed as DTMs in prior years, which have since graduated into fully fledged banks and thus could not be studied as DTMs in 2011, yet data was available for prior years.

During the study, there were significant variations in the findings from all the DTMs, due to their size, considering some have been in operation for a longer period than others. This may have led to variations in the range of data collected.

### **5.6 Suggestions for Further Research**

By and large, the study was successful. However, there were inherent limitations arising from the collection and analysis of the available data. There is need for more research to be done in the area of what affects the working capital of financial institutions. Probably other variables other than the ones studied here could explain the variation in working capital of firms of MFIs.

Due to the unavailability of data for previous years, there is need to carry out further research in the near future, so as to capture more data, and thus strengthen the position on the relationship between working capital management policies and profitability of the DTMs.

Only several components of working capital were analysed. Other components of working capital such as cash, securities held, etc in the financial statements of the DTMs can also be analysed for their effects on profitability and thus broaden the knowledge base of finance managers on critical areas of working capital that contribute to profitability of these unique firms.

Considering the uncertainty surrounding external funding, proper management of working capital keeps an organization free from challenges of external borrowing and maintaining a balance between customer's deposits and loans taken from within and from outside.

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## APPENDICES

### List of deposit taking MFIs

#### Faulu Kenya DTM Limited

Postal Address: P. O. Box 60240 – 00200, Nairobi

Telephone: +254-20- 3877290 -3/7, 38721883/4

Fax: +254-20-3867504, 3874875

Email: [info@faulkenya.com](mailto:info@faulkenya.com), [customercare@faulkenya.com](mailto:customercare@faulkenya.com)

Website: [www.faulkenya.com](http://www.faulkenya.com)

Physical Address: Faulu Kenya House, Ngong Lane -Off Ngong Road

Date Licenced: 21.05.2009

Branches: 27

#### Kenya Women Finance Trust DTM Limited

Postal Address: P. O. Box 4179-00506, Nairobi

Telephone: +254-20- 2470272-5, 2715334/5, 2755340/42

Email: [info@kwfndtm.com](mailto:info@kwfndtm.com)

Website: [www.kwfnidtm.com](http://www.kwfnidtm.com)

Physical Address: Woodlands Business Park, Kiambere Road, Upper Hill,

Date Licenced: 31.03.2010

Branches: 16

#### Rafiki Deposit Taking Microfinance

Postal Address: 12755-00400 Nairobi

Telephone: 020-216 6401

Cell - phone : 0719 804 370/0734 000 323

Email [info@rafiki.co.ke](mailto:info@rafiki.co.ke)

Website: [www.rafiki.co.ke](http://www.rafiki.co.ke)

Physical Address: : 2nd Floor, El-roi Plaza, Tom Mboya Street

Date Licensed: 14.06.2011

Branches: 3

#### Remu DTM Limited

Postal Address: P. O. Box 20833-00100 Nairobi

**Telephone:** 2214483/2215384/ 2215387/8/9, 0733-554555

**Email:** [info@remultd.co.ke](mailto:info@remultd.co.ke)

**Physical Address:** Finance House, 14th Floor, Loita Street

**Date Licensed:** 31.12.2010

**Branches:** 3

**SMEP Deposit Taking Microfinance Limited**

**Postal Address:** P. O. Box 64063-00620 Nairobi

**Telephone:** 020-3572799 / 26733127 / 3870162 / 3861972 / 2055761

**Fax:** +254-20-3870191

**Email:** [info@smep.co.ke](mailto:info@smep.co.ke)

**Website:** [www.smep.co.ke](http://www.smep.co.ke)

**Physical Address:** SMEP Building - Kirichwa Road, Off Argwings Kodhek Road

**Date Licensed:** 14.12.2010

**Branches:** 6

**UWEZO Deposit Taking Microfinance Limited**

**Postal Address:** 1654-00100 Nairobi

**Telephone:** 2212917 / 9

**Email:** [info@uwezodtm.com](mailto:info@uwezodtm.com)

**Website:** [www.uwezodtm.com](http://www.uwezodtm.com)

**Physical Address:** Park Plaza Building, Ground Floor, Moktar Daddah Street

**Date Licensed:** 08.11.2010

**Branches:** 2