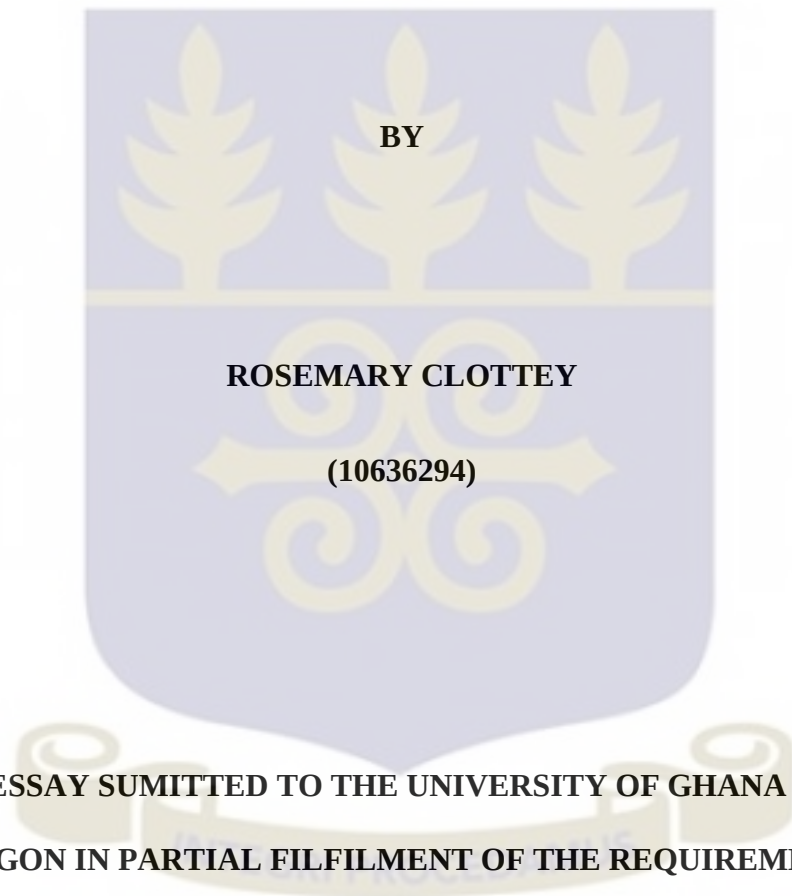


UNIVERSITY OF GHANA

**THE EFFECT OF LOAN PORTFOLIO MANAGEMENT ON THE PROFITABILITY
AND SUSTAINABILITY OF SELECTED MICROFINANCE COMPANIES IN GHANA**



**A LONG ESSAY SUMMITTED TO THE UNIVERSITY OF GHANA BUSINESS
SCHOOL, LEGON IN PARTIAL FILFILMENT OF THE REQUIREMENT FOR THE
AWARD OF A MASTERS DEGREE IN BUSINESS ADMINISTRATION (FINANCE
OPTION)**

2019

CERTIFICATION

I hereby certify that this long essay was supervised in accordance with the procedures laid down by the University.

.....

SAINT KUTU Ph. D
(SUPERVISOR)

.....

DATE

DECLARATION

I do hereby declare that this work is the result of my own research and has not been presented by anyone for academic award in this or any other university. All references used in the work have been fully acknowledged.

I bear sole responsibility for any shortcomings.

.....

.....

ROSEMARY CLOTTEY

(10636294)

DEDICATION

To GOD be the Glory for the unimaginably great things HE continues to do in my life. This work is dedicated to GOD for Whose guidance and support has made it possible.

And to you Annabel my girl, this work is to your everlasting memory.

ACKNOWLEDGEMENT

I am grateful to the many people who believed in my study and gave so much to make this long easy possible. My utmost gratitude is to the most High God for his infinite mercies and grace upon my life throughout this programme.

My deepest gratitude goes to my supervisor Dr. Your motivation and attentive supervision conceived this work, you are a wonderful mentor.

LIST OF TABLES

Table 4.1: Descriptive Statistics of Variables	35
Table 4.2: Correlation Matrix with ROE as the dependent variable	36
Table 4.3: Regression results with ROE as the dependent variable.....	38
Table 4.4: Regression results with ROA as the dependent variable	40

LIST OF ABBREVIATIONS

MFIs: Microfinance Institutions

ROE: Return on Asset

ROA: Return on Equity

DS: Diversification

ACP: Average Loan Collection Period

ADP: Average Loan Disbursement Period

TABLE OF CONTENTS

CERTIFICATION	i
DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
LIST OF TABLES	v
LIST OF ABBREVIATIONS	vi
TABLE OF CONTENTS	vii
ABSTRACT	x
CHAPTER ONE	1
INTRODUCTION	1
1.0 Introduction	1
1.1 Statement of the Problem	3
1.2 Research Objectives	4
1.3 Research Questions	5
1.4 Significance of the Study	5
1.5 Scope and Limitations	6
1.7 Organization of the Study	6
CHAPTER TWO	6

LITERATURE REVIEW	6
2.0 Introduction	7
2.1 Introduction to key concepts	7
2.1.1. Microfinance Institutions (MFI).....	7
2.1.2 Loan Portfolios.....	7
2.1.3 Lending.....	8
2.1.4 Loan portfolio management	10
2.2 Risk associated with lending	10
2.3 Loan portfolio management process	15
2.3.1 Credit Allocation	15
2.3.2 Loan approval process.....	16
2.3.3 Risk Identification process	17
2.4 Oversight of Portfolio management	19
2.5 Developing and Implementing a Loan Policy.....	21
2.6 Managing Risks within a risk portfolio.....	22
2.7 Loan portfolio performance and sustainability	24
2.8 Theoretical framework	26
2.8.1 Modern Portfolio Theory (MPT).....	26
2.8.2 Profitability Theory	27
CHAPTER THREE	28
METHODOLOGY	28
3.0 Introduction	28
3.1 Research Approach	28
3.2 Population.....	28
3.4 Sampling Techniques	29

3.5 Sources of Data	30
3.6 Instrumentation.....	30
3.7 Method of Data Analysis	30
3.8 Ethical Considerations.....	31
CHAPTER FOUR.....	33
PRESENTATION AND ANALYSIS OF RESULTS	33
4.1 Introduction	33
4.2 Descriptive Statistics	33
Table 4.1: Descriptive Statistics of Variables	35
4.3 Correlation Matrix.....	36
Table 4.2: Correlation Matrix with ROE as the dependent variable.....	36
4.4 Regression Results	37
Table 4.3: Regression results with ROE as the dependent variable.....	38
Table 4.4: Regression results with ROA as the dependent variable	40
CHAPTER FIVE	43
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION	43
5.1 Introduction	43
5.2 Summary of Major Findings	43
5.3 Conclusion.....	45
5.4 Recommendations	46
REFERENCES	48

ABSTRACT

The purpose the study sought to examines the impact of loan management on firm performance of microfinance companies in Ghana. With this study sought to determine the relationship between loan portfolio management in MFIs and financial sustainability, to assess the impact of loan portfolio management on MFI profitability, to recommend strategies for enhancing MFI sustainability. To achieve this the study employed an econometric approach using 10 microfinance firms listed on the Ghana Stock Exchange with data from firm annual financial accounting report for a period of 10years from 2007-2016. With performance indicators, return on equity the study found the average loan collection period, performance cycle, diversification and liquidity variables to have significant implications on the return on asset (robust measure) variable of the microfinance companies employed in this study and the performance cycle to have a negative and significant relationship with return on asset (5% significance level). Also, the study the average loan collection period, diversification and size variables have significant implications on the return on equity variable of the microfinance companies employed in this study and the diversification was to have a positive and significant relationship with return on equity (1% significance level). Therefore, this research concludes that efficient loan management is critical for the profitability of firms and sustainability of microfinance companies, thus, financial managers can create value for their shareholders by implementation of effective loan management systems.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

Microfinance institutions (MFIs) emerged as organizations that extend ‘financial services’ to otherwise ‘unbankable’ people in society. Microfinance is considered as the “provision of thrift, credit and other financial services and products of very small amounts to the poor in rural semi – urban or urban areas enabling them to raise their income levels and improve living standards” (NABARD, 2000). Microfinance is therefore not just the provision of financial services; it must be considered as a tool for development. This orientation of MFIs makes them a risky business because they provide credit to the poor people, usually without any collateral, thus the repayment of loans cannot be fully guaranteed.

Till recently, MFIs were not considered to be in business to earn profit and hence be financially sustainable. The social cause of to uplift vulnerable or low-income people out of poverty was considered more important than achieving financial sustainability. Most MFIs used donations, gifts and subsidies from donors and government to supplement for their operational costs. In recent times however, there has been a debate on the sustainability of MFIs which has led to the emergence of two schools of thought. The term “Microfinance Schism” was coined by Morduch (2000) to refer to the on-going debate on whether MFIs should follow the welfarist or institutionalist approach to achieving self-sufficiency.

According to the *Institutional Approach*, MFIs should be able to cover their operating and financial costs and not rely on donations and government interventions. (Morduch, 2000; Woller et al, 1999). Adherents of this school of thought hold that institutional sustainability was important for

the provision of financial services to low-income earners, however financial self-sufficiency was vital to institutional sustainability.

On the other hand, the *Welfarist approach* emphasizes on the mission of microfinance to serve the poor and considers aspects such as poverty alleviation, women empowerment and depth of outreach to be more important than sustenance. Helms (2006) explains that, welfarists are concerned that when MFIs lay emphasis on financial sustainability there is a “*mission drift*”. They therefore support the usage of donations, grants and subsidies to complement operational costs. Although, still not proven, welfarists tend to believe that if financial self-sufficiency is desired then the services will not reach the very poor.

According to Modruch (2000), only about one percent of microfinance institutions on the globe can be considered to be self-sustainable, and less than five percent will ever be financially self-sufficient. Most microfinance institutions therefore continue to rely on grants, subsidies and donations to sustain their operations.

Woller and Schreiner (2002) define financial sustainability as “the non-profit equivalent of profitability”. Also, Glautier and Underdown, (2001) argue that profitability of MFIs is a determinant variable for financial sustainability. On the basis of this, it is possible to establish a relationship between profitability to financial sustainability. Another definition was posited by, Woller et al (1999) who defined sustainability based on an earlier definition by Brinkerhoff, which defines sustainability as the “ability of a program to produce outputs that are valued sufficiently by beneficiaries and other stakeholders that the program receives enough resources and inputs to continue production.” Acharya and Acharya (2006) made the argument that, to be sustainable, a microfinance institution must be able to realize an excess of operating income over operating cost. In other words, a sustainable MFI must be able to cover its annual budget from its income.

Several measures have been used to evaluate the sustainability of financial institutions. The most effective is a two-way approach of evaluating both Operational Self Sufficiency (OSS) and Financial Self Sufficiency (FSS). OSS concerns with the ability of the MFI to use revenue generated to cover direct costs (this excludes the cost of capital but including actual financing costs), whilst FSS presents a picture of the actual financial health of the MFIs.

One aspect of microfinance that hinges on profitability is how the MFI manages its loan portfolio. Biekpe and Kiweu (2009) point out that loan portfolio performance of MFIs is critical, especially since issues of over-indebtedness expose MFIs to danger. MFIs make efforts to maximize the returns to a portfolio while at the same time reducing risks to acceptable levels (Van der Maas, 2006). According to Kariuki, (2010), loan portfolio management is the “effective management, monitoring and reviewing of lending institutions’ loan portfolio by using appropriate tools and techniques.” An MFI’s loan portfolio can refer to the amount of loans outstanding and excludes projected interest. When loan portfolios are efficiently managed, MFIs will have a better performance (Oboh & Ekpebu, 2011).

Ayayi and Sene (2010) studied the effect of portfolio management on financial sustainability of MFI and found that sound management, quality of portfolio and client outreach impact the financial sustainability of MFIs in a positive way. Since loan forms a substantial amount of the assets of MFIs, and are their predominant source of revenue, it is one of the greatest sources of risk to MFIs’s safety and soundness. This makes the effective management of MFI loan portfolios very important.

1.1 Statement of the Problem

In Ghana and sub-Saharan Africa, MFIs have played a critical role in poverty alleviation, realizing gender equality and development. The mission of MFIs to increase access to financial services to

low income earners has increased the risks that MFIs are exposed to due to the inability of some clients to repay debts (Biekpe & Kiweu, 2009). The operating costs of MFIs however have traditionally been supported by donations, grants and subsidies which ensures that MFIs remain afloat despite being exposed to serious risks. According to Modruch (2000), only about one percent of microfinance institutions on the globe can be considered to be self-sustainable, and less than five percent will ever be financially self-sufficient. However, the long term survival of most SMEs is still at doubt because the continuous inflow of grants and subsidies is not an assurance.

This makes it imperative for MFIs to consider approaches towards realizing sustainability. Argument have been made that focusing on attaining financial self-sufficiency may cause MFIs to depart from their original mission (Helms, 2006).

It is important therefore, for new approaches to be developed to ensure that MFIs adhere to best institutional and financial practices that ensure long term survival and financial sustenance, whilst at the same time ensuring that they continue to execute their mission to extend financial services to low income earners.

Loan portfolio management is a tool which allows financial institutions to manage outstanding loans, increase their profitability and reduce the risks that the MFI is exposed to. This makes it vital to the sustainability of MFIs.

This study seeks to analyze the concept of loan portfolio management and provide insight on how Ghanaian MFIs manage their loan portfolios so as to be able to assess the impact it has on sustainability and profitability.

1.2 Research Objectives

This study sought to realize the following objectives:

- To determine the relationship between loan portfolio management in MFIs and financial sustainability.
- To assess the impact of loan portfolio management on MFI profitability
- To recommend strategies for enhancing MFI sustainability

1.3 Research Questions

The study therefore answers the questions bellow:

- What is the relationship between loan portfolio management and financial sustainability?
- How does loan portfolio management impact MFI sustainability?
- What recommendations could be made to enhance MFI sustainability?

1.4 Significance of the Study

The results of the study are significant in many regards. Firstly, it helps to resolve a contextual gap in the literature available on the theme. Whilst several researchers have explored the relationship between loan portfolio management and sustainability, most of these were done in the formal banking sector where there is no emphasis on poverty alleviation, women empowerment or depth of outreach. Secondly, most existing literature is the result of work in other countries that may overlook country specific differences on how loan portfolio management mediates MFI sustainability.

The results of this study could also be vital to policy makers who in recognizing the role of MFIs in development and poverty alleviation, may fashion out policies to enhance MFI sustainability in Ghana in a bid to attaining development.

1.5 Scope and Limitations

The study covers MFIs in Accra, Ghana. In undertaking this study, the researcher expected to encounter a number of limitations. The first of which is the difficulty to obtain data about MFI loan portfolios due to the sensitive nature of such information and also because financial information of such nature has strategic value to the MFIs and their competitors.

Secondly, the data obtained may be incomprehensive and may not encompass every aspect of loan portfolio management that the researcher seeks to study.

1.7 Organization of the Study

This study is organized into five main chapters, each dealing with a distinct aspect of the study.

Chapter One provides the background, statement of the problem, states the study objectives and questions. Chapter Two reviews of relevant literature from other scholars as well as the theoretical framework used to guide the study.

Chapter Three discusses the methodology. This chapter will discuss into detail all the steps and procedures employed by the researcher to realize the results to be obtained. Chapter Four discusses the data analysis and the discussion of the findings made.

Chapter Five consists of the summary of the study, conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section of the study discusses the various concepts that border around the theme of this study such as loan portfolios, MFIs, MFI sustainability and loan portfolio management. In discussing these concepts, the views of several authors and researchers who embarked on related studies are examined. The chapter also includes a theoretical framework for the study, where a number of theories that guide the study are discussed. The observation and results obtained by other researchers as examined in this literature review will serve as a measure against which the outcome of this study is measured.

2.1 Introduction to key concepts

2.1.1. Microfinance Institutions (MFI)

Microfinance refers to the provision of financial services to low end clients or low income clients. Sinha (1998) refers to microfinance institutions as institutions which offer microcredit, where microcredit refers to small loans. MFIs therefore offer credit to highly vulnerable groups which do not readily have access to services from the formal banking sector.

2.1.2 Loan Portfolios

Loan portfolios are a term generally used in the financial sector to refer to loans that have been made or bought and are held for repayment. Loan portfolios constitute a major asset for most financial institutions such as banks, thrifts and lending houses and microfinance institutions (MFIs). The value of a loan portfolio depends on several factors such as the interest rates earned on loans, the likelihood of repayment of both interest and principal and the nature of the loans. Loan portfolios of microfinance institutions usually form a greater share of assets and a dominant source of revenue, however it is also the greatest source of risk to which the MFI is exposed to (Comptroller's Handbook, 1998).

Being the utmost spring of menace to the MFI implies that the effective management of an MFI's loan portfolio and credit is very vital in ensuring its sustainability. 'Loan portfolio management' therefore is a technique of handling, directing and regulatory risks that are inherent in the "credit process" (Comptroller's Handbook, 1998 p11). Every MFI or financial institution involved in lending needs to have a number of loan portfolio management mechanisms implemented to determine "whether the risks associated with the financial institution's lending activities, are accurately identified, quantified and communicated to top management for appropriate corrective management" (Comptroller's Handbook ,1998 p8).

Arguably, "Loan portfolio management" is therefore a principal managerial duty because it evaluates the Stepladders taken by the decision makers in identifying and controlling perils in the beginning through to the end or during the life circle of the credit season, from loan approval to the monitoring and controlling of loan performance and recovery. Loan portfolio management seeks to realize the following objectives in any financial institution:

- To ensure the granting of loans on a sound and recoverable basis
- To ensure profitability of investments made by the financial institution
- To enhance the ability of the financial institution to serve the credit needs of its community / patrons.

2.1.3 Lending

Lending is the act of issuing out loans to another party. Bash (1995 p5) defines a loan "as a contractual promise between two or more parties in which one party called the creditor agrees to provide a sum of money or another form of capital to the other party called the borrower who receives the said sum or capital and promises to repay at a set date, usually following a repayment

schedule, and sometimes with additional payments known as interest. Good lending aims at ensuring that all terms in a loan agreement are adhered to”.

Loan portfolios are said to do well when good lending practices are imbibed by the financial institution. There are three cardinal attributes of good lending in any lending institution. These are: safety, liquidity and profitability.

- Safety is an understanding that the borrower has the legal capacity to borrow and to provide the security should this be required (Bash, 1995). A loan is deemed safe if the borrower is deemed to have the capacity to meet all the terms of the loan agreement.
- Liquidity refers to the ability of a borrower to meet repayments as soon as they are due. It can also refer to the degree of convertibility from loan to cash (Bash, 1995). The ease with which loans can be redeemed in terms of either repayment or forfeiture of collateral is considered to be liquidity.
- Profitability refers to income generated on loans or interest and other fees which the borrower is levied. These fees are usually a reflection of the risk involved (Bash, 1995).

There are many types of loans. The categorization of loans can either be done in terms of purpose of the loan (e.g. car loan, mortgage, business loan, service loan e.t.c), duration of loan/repayment period (e.g. short term loans, mid-term loans, long term loans) and loan performance. In general, with respect to performance there are two types of loans: Non-performing loans and performing loans

Bash (1995) explains that a loan facility can be defined as performing when repayments are made on schedule and all that was agreed by lender and borrower are being adhered to. A loan is therefore

described as performing when repayment schedules are adhered to and the full recovery is expected as scheduled.

Berge and de Young (1997) described non-performing loans as problem loans. these are loans which are outstanding in terms of principal and interest, and where the terms of the loan contract have been breached. Alton and Hazen (2001) further explained that bad loans are loans that are ninety days past due and no longer attract interest. Similarly, Fofack (2005) described them as loans which for a relatively long period of time do not generate income.

2.1.4 Loan portfolio management

The effective management and periodic reviewing of a lending institutions loan portfolio is known as loan portfolio management (Kariuki, 2010). Loan portfolio management (LPM) therefore seeks to ensure that non-performing loans are kept to a barest minimum, and this is done by identifying the potential risks associated with lending to borrowers. Marthur and Marcelin (2014) explain that LPM involves the analysis of “risks associated with lending” and the implementation of strategies to ensure that a lending institution lending practices do not put it at risk.

2.2 Risk associated with lending

Risk is defined as the latent proceedings, either expected or otherwise, may negatively affect the earnings of a financial institution. The Comptroller’s Handbook (1998) identifies nine forms of risks associated with lending in financial institutions. these are: credit risk, interest rate risk, liquidity risk, foreign exchange risk, transaction risk, compliance risk, price risk, strategic risk and reputation risk. Since these risks are not mutually exclusive, a loan facility may expose the financial institution to more than one risk at a time, depending upon the nature of the lend. ‘Loan

portfolio management' therefore seeks to quantify these risks so as to ascertain whether or not the financial institution can shoulder the risk, and where the financial institution decides to shoulder the risk, loan portfolio management will seek to minimize the threats posed by these risks to the lending function, sustainability and profitability of the institution.

Credit risk: This is the largest form of risk associated with lending especially in the case of MFIs due to the nature of their clientele. Credit risk refers to the risk of a loan not being payed, delayed or defaulted. This risk is either increased or reduced by the credit risk management practices of the MFI. Credit risk management is the most effective way to reduce incidence of loan default (Comptroller's Handbook, 1998). Credit risk management practices are most effective when mechanisms for loan approval are rigorous and lending staff are effective and competent to determine the capacity and character of a borrower and their ability to repay loan facilities awarded to them. Credit risk management is a continuous process and must continue even after loan approval till the entire loan is recovered.

The effective management of the credit risk associated with loans in an MFIs loan portfolio requires an effective system to analyse information about the borrower. The development of a credit culture that ensure rigorous scrutinisation of the background of borrowers, will help reduce credit risk (Nocco and Stulz, 2006). Credit risk management is therefore an integral and vital aspect of loan portfolio management. To manage credit risk within a loan portfolio, an understanding of the institutions risk profile and the loan portfolio composition is necessary, it is also important to understand the geographic concentration of risk, industry concentration and other characteristics of the loan portfolio (Nocco and Stulz, 2006)

Hartman (2010) defines credit risk as gains and losses on a position or portfolio associated with the actual or expected fulfillment of contractual obligations such as payment of interest or loans

and bonds and the reimbursement of principal amounts. credit risk is measure in terms of credit risk quantity or credit risk quality. The Indian Banking Institute (n.d) defines credit risk quantity as the outstanding balance due for repayment and credit risk quality as the chances of default and guarantees that a default would not lead to excessive losses.

Rajiv (2005) further segments credit risk into three components which are default risk, exposure risk and recovery risk. Default risk concerns with the chances of default on payments, whilst recovery risk concerns with ability to repay the loan, and lastly exposure risk concerns with the level of exposure of a borrower to other factors that may affect repayment.

Interest rate risk: This denotes to the levels of risk attributed to a monetary institution lending activity due to the structure of its ‘loan portfolio’ and the level to which it structures its loans, loan rates and loan maturity schedules. Interest risk is the type that is “borne by interest bearing assets such as loans due to variability of interest rates” (Comptroller’s Handbook, 1998 p6).

Foreign exchange risk: Most MFIs are not exposed to this kind of risk due to the nature of their clientele. Foreign exchange risks emerge “when a loan portfolio is denominated in a foreign currency or is funded in another currency” (Comptroller’s Handbook, 1998 p7). When financial institutions allow debtors to decide preferred exchange, they are exposed to foreign exchange risks when “one of the currencies involved is subject to unfavourable exchange rate fluctuations”. Foreign exchange rate risks are also heightened by political, social and economic developments, or even disasters (Saunders, 1996).

Liquidity risk: Level of risk associated with convertibility of loan portfolio segments into cash (Basu, 1995). It depends on an important characteristic such as the three words ‘quality, pricing, scheduled maturity’, “compliance and conformity to market standards”. The use of collateral

enhances the ability of a financial institution to convert loans into cash. Santomero (1997 p12) acknowledges that, “recognizing liquidity risk guides the MFI to identify liquidity as an asset itself and portfolio design in the face of illiquidity unease as a challenge”.

Price risk: Loan portfolio increasingly becomes sensitive to price risk. Price risk refers to the risk carried by loans that were originated for sale but are currently awaiting sale (Comptroller’s Handbook, 1998).

Transaction risk: Risk in loan disbursement and credit administration process can contribute to increasing the incidence of default. Factors that contribute to the reduction of transaction risk include ability of information systems to determine integrity of the loan benefactor, ability to control credit administration process, and competency of credit staff (Comptroller’s Handbook, 1998). The capability and competency of credit staff helps the MFI to identify risks associated with each borrower, quantify them and support the loan portfolio manager to diversity risks associated with particular geographic areas or industries. For example, the inability to obtain the right document or obtain the right collateral may expose the MFI to greater credit risk.

Compliance risk: This refers to risks associated with observing industry wide standards such as exposure to law suits. The financial sector requires compliance to a lot of standards to minimise risks associated with lending (Comptroller’s Handbook, 1998).

Strategic risk: This are risks associated with tactical decisions. Inappropriate tactical decisions may affect loan portfolio management, loan portfolio growth and new loan product development. entry into certain geographical or demographic markets can also compromise the future of the MFI especially when loans to customers from that market will result in either industry or geographic concentration of risk (Comptroller’s Handbook, 1998).

Reputation risk: Credit problems may result in decline in reputation among stakeholders (clients, investors). Inability to come to terms with the credit requirements due to poor loan portfolio management, inefficient loan delivery systems and lender liability lawsuits may tarnish the financial institutions image among stakeholders, and this puts the MFI at risk of failure. Kotler and Keller (2005) explain that reputation risk is very dynamic and detrimental to any organization. It occurs when patrons no longer want to be associated with the MFI or specific loan products of the MFI, or think less favourably about it. In ability to manage the loan portfolio of the financial institution properly may result in illiquidity which influences reputation risk.

The risk profile of every financial institution is key to effective loan portfolio management. The risk profile of a financial institution describes the various levels of risks in a financial institutions loan portfolio and how these risks are distributed into various loan portfolio segments (Nocco and Stulz, 2006). The risk profile is influenced by strategic planning, credit culture and overall management of the institution. Here, credit culture refers to the credit values, beliefs and behaviours that influence lending policy and credit risk management. The risk profile of a financial institution changes as the composition of its loan portfolio changes among other factors (Nocco and Stulz, 2006).

A good knowledge of the “risk profile of the financial institution” helps management to determine the risk tolerance of the MFI (Basu, 1995 p3). Risk tolerance refers to the risk limits of the lending activities of a microfinance institution. it is dependent on the ability to absorb future losses, historical loss experience and desired levels of returns on loans issued by MFI. Lending is among the inter alia involves both “risk taking and profit-making business”, this makes it imperative for loan portfolio managers to be able to implement effective procedures to recognize and deal with risks linked with lending.

2.3 Loan portfolio management process

The loan portfolio management process encompasses several actions and activities that are to be implemented at various levels of the organization of any lending institution. Some very key aspects of these process are credit allocation, loan approval process, risk identification and risk management.

2.3.1 Credit Allocation

Most MFI s have suffered due to poor credit allocation practices. Loan portfolio management encompasses the allocation of loans, and this eventually determines the distribution of risks into different loan portfolio segments. credit allocation refers to the distribution of loans to different segments within the loan portfolio of a financial institution. According to Mathur and Marcelin (2014), credit allocation is the process in which a lending institution divides its financial resources and other sources of credit to different processes and borrowers so as to optimise returns on assets and minimize risks. Gaian, Falkowski and Kanks (2012) explains that, credit allocation ensures equilibrium between the demand and supply forces for loans, and enhances recovery rates, whilst reducing risks such as credit risk, interest rate risk and liquidity risk; all of which may jeopardize the sustainability of the MFI (Beresford-Smith and Thompson, 2007).

The role of loan portfolio management is to allocate the MFIs resources to the highest value uses (Wurgler, 2000). Credit allocation happens when lenders irrespective of availability of funds chose not to make all loans available to prospective borrowers, even though they are able to pay interest rates or fulfill other criteria for the said loans such as collateral requirements (Ke, Wang and Chan, 2011). Credit allocation relies on information sharing about current borrowers and new loan applicants. One of the motivations of credit allocation is to ensure de-concentration of risk within

a particular industry, geographical area, economic sector or a group of borrowers who share same characteristics (Oboli and Ekpebu, 2011). Oboli and Ekpebu (2011) further explain that, when credit allocation is efficiently managed, MFIs will have better performance. Another aspect in loan portfolio management that determines the manner in which loans are allocated is the debt to asset ratio. Kobayashi et al (2012) showed that beyond a certain point in the debt to asset ratio, a rise in debt asset ratio will result in balance sheet deterioration. Therefore, beyond a certain limit, any further debt incurred by the MFI may put it at risk of making negative returns on investment.

2.3.2 Loan approval process

The first and most important step to be observed to ensure the quality of an MFIs loan portfolio is to ensure effective loan approval mechanisms. It is during the issuing of individual loans within the loan portfolio that the decision to shoulder a risk or not is made. The Comptroller's Handbook explains that "when individual credits are underwritten with sound credit principles, the credit quality of the portfolio is more likely to be sound." This infers that the loan approval process is the best way to ensure loan quality, and ultimately a robust loan portfolio. The loan approval process in any lending institution should be in line with the institutions credit culture and risk profile, and should fall within its credit risk limits. The making of decisions on credit administration is often invested in a credit administrator or credit officer, or in some cases a team of credit officers (to enhance objectivity of decisions). To be effective, a lending institution must institute minimum requirements for information on loan applications, upon which credit decisions can be made. Apart from information about the loan applicant, other factors to be considered should include the amount of credit, level of risk in particular destination market, geographical area and duration of business. In general, for effective credit administration, the Comptroller's Handbook (1998 p28) postulates the following points to elucidate guaranteeing document standards:

- **Financial Information standards:** which includes present and past balance sheet, revenue data, income and expenditure forecasts and the industrial competitiveness data.
- Analysis of Financials which includes the ability to repay loans or credit worthiness
- Security documentation and assessment.
- Underwriter provision and associated fiscal data.
- Summary of pledger and allied credit associations.

The primary goal of the credit approval process is to determine quality (loan safety, liquidity and profitability). The effectiveness of this process is a determinant of the effectiveness of the entire LPM process.

2.3.3 Risk Identification process

Credit allocation can only be efficient if the individual risks associated with loan applicants can be identified and quantified accurately. Loan portfolio management and credit risk management rely on the process of risk identification, which is a determinant of subsequent actions. According to the Basel Convention (1999), the goal of credit risk management is to maximize a financial institutions risk-adjusted rate of return by maintaining credit risk within acceptable parameters. The identification of risks associated with individual loans within a loan portfolio as well as risks associated with prospective loan applicants is therefore crucial for efficient loan portfolio management. It is only after risks have been identified and quantified that a decision can be made on whether to accept the risk or not.

Risk identification is mostly a qualitative process in which a lending institution develops and maintains a mechanism to identify risks and other characteristics associated with current and prospective borrowers, and the determining factors include past borrowing history (history of loan

default), nature of collateral, purpose of loan, geographical area and economic sector for which the loan is required (Oboh and Ekpebu, 2011). Rajiv (2005) explains that risks in a loan portfolio can only be monitored and controlled when the risk identification during loan approval was done effectively.

After the identification of risk, the next step is to measure or quantify them. This is also known as credit risk exposure. The level of credit risk exposure refers to the degree to which credit losses are possible. Rajiv (2005) list three components of credit risk exposure, which are:

- Expected losses (Cost of business undertaken by a MFI)
- Exposure at default (Risks to which the lending institution is exposed to as a result of default but not including the defaulted loan payment itself).
- Unexpected losses and loss given default (Unanticipated losses that the bank incurs in case of a loan default).

The task of assigning a default probability to every loan within the loan portfolio is crucial in determining which action could be taken to reduce the risk of default. it is very important in loan portfolio management. Servigny and Renault (2004) suggest two main methods that can be used to measure probability of loan default:

- Calibration of the loan default probability from market data.
- Calibration of default probability from ratings.

The risk identification and quantification process is even much more important to microfinance institutions because most of the credit being offered is to poor people with unsuitable or no collateral, thus the repayment of loans can never be fully guaranteed. Microfinance institutions

mostly serve the financial needs of people who have limited access to traditional banking institutions either due to lack of collateral or proper documentation. According to Servigny and Renault (2004), the absence of both, makes MFI clientele a riskier venture as compared to traditional banks, thus effective consideration of risks associated with lenders and efficient risk management practices are vital for survival and to maintain long term competitive advantage. Effective risk management and loan portfolio management helps MFIs to be self-sustainable and liquid even within an environment of high risk clientele (Nocco and Stulz, 2006).

2.4 Oversight of Portfolio management

For LPM to be effective, the lending institution must clearly assign oversight responsibilities of the entire process and define clearly the roles and responsibilities of all other action officers within the loan portfolio management process (Servigny and Renault, 2004). The officer with oversight responsibility is tasked with determining how the objectives of the institutions LPM can be realized, and to fashion out strategies towards realizing them.

As stated earlier, the objectives of the supervision of an MFI's lend collection are:

- To advance loans on a thorough and recovery basis.
- To ensure profitable investment of financial resources.
- To serve the legitimate credit needs of their communities.

Having established the objectives of the loan portfolio of the lending organization, it is important to adopt a number of strategic measures that will facilitate the realization of these goals. To do this, a clear appreciation of risks associated with lending or with current loans will enable efficient and effective loan portfolio management (Rodgers, 2013). Some aspects of loan portfolio

management strategy which are the responsibility of the loan portfolio manager include the making of decisions such as:

- What percentage of the balance sheet the lend collection should cover?
- Elucidate the Goals for lend value.
- Lend development imbibe by company products, its markets, and the collection section.
- Consider the financial institution parameters and how it should be.
- Businesses considered important
- Considering Community desires and provisioning.

With regards to formulating the strategic aims and objectives for the lend portfolio, the MFI has to establish limits for risks that the MFI can shoulder with respect to lending. Rodgers (2013 p4) emphasizes that, “risk limits should take into consideration the bank’s historical loss experience, its ability to absorb future losses, and the MFI’s desired level of return”. But is it important to set limits and the ways to deal with the nuances either individually or collectivization. Factors for the setting of lending risk limits include: characteristics of individual loans, volume of particular segments within the loan portfolio, and the composition of the portfolio as a whole (Nocco and Stulz, 2006). The institution should have a loan ceiling for some organisations in view of the credit worthiness of those organisations. These restrictions should be grounded on the interrelationship of risk and reward and on the risk to capital, earnings, or both.

2.5 Developing and Implementing a Loan Policy

The lending activities of MFIs, banks and other lending organizations are often guided by a comprehensive loan policy which serves as a checkpoint for lending activities, assigns responsibilities and espouses the lending institutions credit philosophy. Loan policies provide a framework for ensuring loan portfolios do not exceed risk tolerance levels, meet earning objectives and are in line with long term goals of the lending institution or MFI. A loan policy can best be described as a set of “standards for portfolio composition, individual credit decisions, fair lending, and compliance management” (Comptroller’s Handbook, 1998 p10).

Loan policies are not uniform across lending institutions and differ in structure, length, scope, degree of detail and breadth of topics. They are usually augmented by further comprehensive guaranteeing ideals, guidelines and regulations. In some cases, a lending institution may provide different provisions for lending for loan applicants from different geographical area, economic sector. Ideally, they should be comprehensive and cover all aspects of lending whilst providing directions on how to monitor and control risk. They must also be dynamic and be able to appreciate changes in the market structure and composition, or of the general economic climate (Comptroller’s Handbook, 1998).

Limits described in loan policies should not be too stringent that very minute changes are considered as a policy breach. Also, institutions need to assign responsibilities to individuals during the loan process in order to make the “lending process” (Basu, 1995).

Loan policies must be adequately described. When the content is vague the standards become unclear, on the other hand, when it is too broad, they may be seen as accommodating all situations. When the “policy is too prescriptive and particular, exceptions to policy will become the rule and

meaningless exception data will mask meaningful trends, thereby diminishing the effectiveness of the policy” (Rodgers, 2013 p3).

2.6 Managing Risks within a risk portfolio

Upon the identification and quantification of risks, several efforts must be taken to limit the risk the MFI is exposed to (Salant, 1994). The first of these is to decline offering a loan to an applicant where the loan is deemed unsafe, or where the loan contributes to exceeding risk tolerance limits for the loan portfolio or a loan portfolio segment. One efficient risk management technique for loan portfolio management is known as portfolio segmentation. This is the grouping of loans within the MFIs loan portfolio into various groups based on some characteristic(s), to help with risk deconcentrating and diversification (Comptroller’s Handbook, 1998).

Risk diversification is an important aspect of loan portfolio management. Concentrations can occur within a lending institutions “loan portfolio when otherwise unrelated loans are linked together by a common characteristic” (Comptroller’s Handbook, 1998 p5). This shared characteristic could become a cause of weakness of unsafety for these set of loans and thus pose considerable risks to earnings and capital.

Managing a loan portfolio comprises “managing any concentrations of risk”, and this is usually done by dividing the entire portfolio into segments of loans with the same characteristics or weaknesses (Basu, 1995). This enhances the ability of the financial institution to evaluate particular loan segments in line with credit risk limits and loan portfolio management objectives. Loans are usually divided into segments based on several factors such as:

- Purpose of loans (real estate loans, consumer loans, commercial loans, industrial loans).

- Intended industry
- Geographic area
- Collateral
- Tenor
- Facility structure
- Risk rating

Segmenting loan portfolios to diversify risks involves the application of effective management information systems. Inadequate data due to faulty management information systems would affect the ability to analyse risk concentrations and thus compromise the safety of the loan portfolio. When an MFI has a high concentration of loans in a particular industry, it needs to monitor keenly the developments that go on in that industry because it is exposed to any threats that the industry could incur, and which will distress the capacity of its pledgers to reimburse loan facilities.

The most common tool for risk management within loan portfolios is to set risk exposure limits or ceilings on concentrations. Declining further loans of the same characteristic after exposure limits are reached protects the MFI from unexpected losses as a result of risks particular to a loan portfolio segment.

Another means of reducing credit risks within a loan portfolio is to embark on a geographical diversification of borrowers. Borrowers from one geographical area may be more exposed to risks than those of another due to economic, political or even climatic factors. For example, a high risk concentration of commercial loans in a market that suffers from a flood or arson will expose a lending institution to severe losses.

Altering the product mix of the financial institution is also another form of diversification which can reduce risks within a loan portfolio. For example, the MFI can reduce commercial loans and increase consumer loans when the risks associated with commercial loans are deemed to be close to risk exposure limits.

Lastly, asset sales can be an effective means of risk de-concentration. An MFI can sell off whole loans or portions of loans to other financial institutions so as to minimize risk exposure within particular loan portfolio segments.

In each of the above approaches, it is important to evaluate the risk exposure against potential rewards. When risk exceed rewards, it is prudent for the MFI to adopt of the above measure to address the situation. Apart from deconcentrating and diversification of risks, stress testing can also be adopted as an effective risk management technique that enhances the safety of a loan portfolio. Stress testing basically involves the making of assumptions about “financial structural and economic variables, to help determine the potential effect on loan performance and risk concentration in portfolio segments” (Basu, 1995 p3). In stress testing, the loan portfolio management team asks several hypothetical questions and seek to determine how the loan portfolio will react to these hypothetical scenarios. The results obtained will form the basis of several efforts to mitigate risks.

2.7 Loan portfolio performance and sustainability

Performance measurement is at the core of business management. Performance measurement seeks to evaluate returns of assets of an investment (loans). The most effective way to assess the performance of a lending institution is to measure: earnings, returns on equity, and returns on

assets. Therefore, in measuring financial performance of an entity, the measurement should consider the relationship existing between returns and equity, it is important to measure Financial performance measures should also consider the relationship between risk and return. This is an indicator to the level of exposure to risk and the degree of success of existing risk mitigating efforts. Returns as used above, can be defined as the rate of change in the value of an asset (loans) over a stipulated time interval (Zechner and Adrian, 2000).

Modruch (2000) stated that only a tiny fraction of microfinance institutions on the globe are self-sustainable and less than five percent will ever be. Despite being lending organizations, microfinance institutions have continued to rely on subsidies and grants in order to balance their book and survive in business. Woller et al (1999) defined financial sustainability as the “ability of a program to produce outputs that are valued sufficiently by their beneficiaries and other stakeholders”, and that there are enough resources to continue production. For MFIs to sustain themselves, they must be able to realize an excess of income over operation cost (Acharya and Acharya, 2006). However, microfinance institutions have as their primary client base, the vulnerable and low-income earners, with a higher risk of loan default. Loans to low end customers are usually illiquid due to the risk of inconvertibility of sub-standard collateral or the absence of any collateral.

This makes loan portfolio management in MFIs a very crucial determinant of MFI sustainability. Telahum (2013) used binary probit ordered regression from 23 MFIs in East Africa to find out that LPM is a crucial determinant for MFI sustainability and that, sustainability is driven by factors such as size of loan portfolio segments, loan intensity and management efficiency at managing risk. Telum (2013) also posited from his findings that breadth of outreach of a microfinance and deposit mobilizations are not determinants of MFI sustainability.

Meize (2011) used data from 92 MFIs in sub-Saharan Africa to conclude that 90.22% of MFIs were not sustainable or profitable. He also observed that factors such as MFI size, number of borrowers, yield of gross portfolio, level at portfolio at risk, liquidity level, staff efficiency and ability to use information systems effectively, all affected financial sustainability of MFIs.

2.8 Theoretical framework

2.8.1 Modern Portfolio Theory (MPT)

According to Bodie et al. (2009), the concept of investment diversification is not a recent one and preceded the modern finance theory. However, the Modern Portfolio Theory was put forward in 1952 by Harry Markowitz. The MPT by Markowitz provided a model for portfolio selection based on diversification principles. This theory and other works culminated in Markowitz receiving a Nobel Prize for Economics in 1990. The MPT model aims at the identification of an efficient set of portfolios which Markowitz described as “the efficient frontier of risky assets.” (Mandelbrot, 2004). Markowitz MPT showed that the variance of the rate of return was an important measure of risk under a set of assumptions which formed the basis for computing the variance of the portfolio and is instrumental in informing diversification decision (Reilly, 1989). He proved that a portfolio with maximum expected returns is not always the portfolio with minimum variance, and advised that mean variance efficient portfolios should inform investment decisions and not margins of expected returns (Markowitz, 1952).

MFI are high risk business ventures, it is therefore important for investors who engage in providing lending services to high risk clientele to develop an effective mechanism to be self-sustainable and profitable. The MPT theory explains how risk averse investors can optimize profitability at a given

level of risk. The theory suggest that strong loan portfolios are robust and achieve returns within uncontrolled risk levels.

2.8.2 Profitability Theory

Profitability is important in the area of financial management because the goal of business management is to optimize investors returns (McMahon, 1995). The profitability theory provides mechanisms to help MFI determine how much output (loans) they can produce and predict the income they realize from their inputs (Bosco and Faustin, 2016). The theory suggests that despite the risk associated with MFI lending, efficient loan portfolio management can help MFIs determine how much profit they will realize from their loan portfolios, as a function of what was invested to make the loan portfolio (i.e. total of loan facilities issued). Therefore, the MFI must seek to reduce unexpected losses, default rates and ensure that profit targets are realized as close as possible (Bosco and Faustin., 2016).

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This section of the study provides a description of the methods that were employed in the undertaking of this research. It describes the specific step by step procedures involved in the research and states the research design chose, methods of data analysis, sample size and population of the study, as well as the ethical considerations taken by the researcher to ensure fairness and objectivity.

3.1 Research Approach

The research approach in any study refers to the general plan of how the researcher will go about answering the research questions (Lewis et al., 2000). Malhorta and Birks (2007) also defined a research design a basic framework or a blue print for conducting a research project. This includes the basic research procedures that must be followed to solve the research problem. Lewis et al. (2000) outlines several research approaches in research in business studies such as case study and survey. This study employs a descriptive approach and a survey design and this is because a survey allows a researcher to use a smaller section of a population to make conclusions about the entire population (Robson, 1992; Baker, 2003).

3.2 Population

The populations in any study is defined as any group of individuals or objects that possess similar traits and which are of interest to the researcher as a result of that binding trait (Polit, Beck and

Hungler, 2001). In this study, the population included all microfinance institutions within the Madina-La Nkwantanang Municipality of the Greater Accra Region

3.4 Sampling Techniques

Sampling frames refers to a list of all the items within a population that can be sampled. It is and can include households, individuals or even institutions (Salant and Dillman, 1994). These items will be selected using a sampling technique into a sample. The sampling technique refers to the method employed to decide which item can be included in the sample size. In this study, the researcher used quota sampling. This method allowed the researcher to include at least one MFI from each community, so that the results are a fair representation of the bigger picture and not of a specific community. These MFIs selected for the study includes Diamond Capital, Albrim Microfinance, Nkosuo Microfinance Limited, Jireh Microfinance, Ubuntu Capital, Express Capital, DPF Microfinance, Gem Capital, Payflex Microfinance, Cashback Capital.

Hussey and Hussey (1997) define a sample as a group of selected member of a population in a study. The number of items in a sample is known as the sample size. Cooper and Schindler (2014) define a sample size as a complete and correct list of members of a population that are selected for participation in a study. Nieman (2014) added that the researcher need to select a sample which is economic, one that includes enough participants to ensure a valid survey. According to Saunders et al (2016), the choice of the sample depends on many factors including, the research time, budgetary constraints and characteristics of the population. When the population is large, the sample ratio needs to be small to provide an appropriate and manageable sample. In this study,

data will be collected and analysed from four MFIs within the Madina La-Nkwantanang municipality.

3.5 Sources of Data

Secondary data was utilized in this study. Secondary data in the form of financial statements and bank reports will also be used for the study.

3.6 Instrumentation

The instrumentation process refers to the process of capturing data from the sample. In this study questionnaires will be used to illicit information about lending practices and credit management practices of MFIs in the sample. The results obtained will however not be used in the study but to enhance the items in the instrument of data administration. Yin (1994) explains that pilot studies are a rehearse of the data administration process, which allows a researcher to make modifications to instrumentation, thus improving final income.

The mode of data collection was done by the researcher. This will be done at the convenience of the staff of the MFI, and upon introduction using an introductory letter from the University of Ghana Business School and a request for permission from top management of the MFI.

3.7 Method of Data Analysis

After the data administration process, the responses will be coded and entered into an SPSS spreadsheet for data analysis. Both inferential and descriptive statistics will be used to analyse the data collected. Descriptive statistics will make use of charts and diagrams to represent proportions whilst inferential statistics will seek to establish a relationship between the

independent variable (MFI loan portfolio management) and the dependent variable (MFI sustainability).

Inferential analysis using correlation and regression models were used to make an analysis between the effects of loan portfolio management on one hand and the financial sustainability and profitability of MFIs on another. In order to measure this Pearson Correlation was used. An approach to evaluate the statistical significance on the relationship that existed between the independent variable and dependent variables incorporated the linear regression model.

$$ROE_t = \beta_0 + \beta_1 LP_t + \beta_2 DS_t + \varepsilon. \text{ Where;}$$

ROE = represents financial sustainability and profitability scores

LP_t = loan portfolio performance measure as average loan collection period with average loan disbursement period.

DS_t = Diversification scores measured as the number of portfolio investment made by the firm

β_0 = Constant Term

β_1, β_2 = Beta coefficients

ε = error term

3.8 Ethical Considerations

Lewis et al. (2003) emphasizes on the need to maintain appropriate ethical behavior in research.

Levis et al. (2003) listed the following as the cardinal ethical considerations in social research: anonymity of respondent, confidentiality of respondent, informed consent and objectivity of the researcher. Prior to eliciting data from respondents, permission was taken from top management, and consent of respondent was sought. The researcher also made efforts to explain the purpose of

the study to the participant. No part of the information received was used for purposes other than the analysis of data and the researcher made efforts to be as objective as possible in the interpretation of the results.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF RESULTS

4.1 Introduction

This chapter presents the analysis and results of the study. In this section, the researcher presents the descriptive statistics to describe all the variables under study. The correlation matrix that defines the association of the variables as well as the results of the regression analysis are presented.

4.2 Descriptive Statistics

In this section, the descriptive statistics of all the variables, both dependent and independent variable under study is presented in Table 4.1. In the description the mean, standard deviation, the minimum and maximum values are presented. A total number of 10 microfinance companies in Ghana were studied over a ten time frame (2007 to 2016). This was data made available by majority of microfinance firm in their annual report and their official website for reporting all annual reports of the firms.

Data was collected within this time frame due to its availability. The research sought for a balanced data hence the appropriate time frame that had most of the microfinance firm was 2007- 2016. The return on equity (roe) variable was used as a measure for profitability and sustainability, it can also be seen from the table that the microfinance enterprises employed in the current study have on an average a return on equity of approximately negative eighty pesewas (-0.80). This means that on average for every cedi invested in the equity of the firm, the equity is able to generate an average return of 0.80 in arrears.

The average loan collection loan period (acp) variable which also measures on the average, the microfinance companies used in the current study have an average loan collection period of approximately 64 days. This implies that the microfinance companies are able to recover their monies from their debtors or convert trade receivables to cash within approximately 64 days.

The average loan disbursement period (adp) variable on the other hand depicts that microfinance companies have an average period for loan disbursement of approximately 15 days. This suggests that it takes on average approximately 15 days for the microfinance companies employed in this study to disburse off their funds to their customers.

Generally, a best practice among companies is for their average loan disbursement period to exceed their average loan collection period. This means, a shorter average collection period and a longer average disbursement period is desired. In this case, it takes a shorter and much more reasonable time for firms to convert resource loans into inflows. For the microfinance companies used in the current research, on the average, the average loan disbursement period exceeds the average loan collection period thereby translating in a performance cycle (ccc) on average of approximately negative 11. This indicates that on the whole, the microfinance companies are efficient in converting their loan facilities into revenue because they have cash inflows in circulation at each point in time thereby reflecting in the negative mean obtained for the performance cycle variable.

For the diversification score (ds), we can observe from the table a mean of approximately 3 for the microfinance companies employed in this study. This implies that on the average, for every 1

Ghana cedi invested in the firms loan portfolio of the microfinance companies, approximately 3 Ghana cedis worth of revenue is generated.

The size of the companies employed in this study on the average can be observed from the table as approximately 15. This implies that the microfinance companies employed in the current research are on the average moderately bigger in terms of their total assets.

For the liquidity variable it can be observed from the table that on the average the microfinance companies employed in this research have a liquidity of approximately 2. This indicates that for every 1 Ghana cedi short-term debt the microfinance companies have approximately 2 Ghana cedis to cover these debts on the average.

Table 4.1: Descriptive Statistics of Variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation
ROE	69	-60.2016	1.9285	-.8144	7.4765
ACP	69	.0203	451.3500	63.8112	66.2124
ADP	69	1.92	3300.88	174.6780	442.4900
PC	69	-2849.5300	81.9200	-110.8668	397.3264
DS	69	.5929	7.2802	3.0054	1.7206
Bsize	69	9.7866	19.6049	14.9245	3.4219
LIQ	69	.1101	9.8065	2.1106	2.1579

Source: Researcher's computation

4.3 Correlation Matrix

In this section we show the association of the various variable employed for the study. The correlation matrix of the variable is expressed in three tables in other to aid the understanding between the association of performance variables and firm management of loan and diversities. The correlation matrix of the variables shows the association between the variables as shown below.

Table 4.2: Correlation Matrix with ROE as the dependent variable

		ROE	ACP	ADP	PC	DS	Bsize	LIQ
ROE	Pearson Correlation	1	0.016	-0.049	0.057	0.159	-0.16	0.094
	Sig. (2-tailed)		0.894	0.689	0.639	0.192	0.188	0.444
ACP	Pearson Correlation	0.016	1	.722**	-.638**	-.512**	.251*	0.016
	Sig. (2-tailed)	0.894		0	0	0	0.038	0.896
ADP	Pearson Correlation	-0.049	.722**	1	-.993**	-.244*	0.082	-0.217
	Sig. (2-tailed)	0.689	0		0	0.043	0.503	0.073
PC	Pearson Correlation	0.057	-.638**	-.993**	1	0.186	-0.05	.244*
	Sig. (2-tailed)	0.639	0	0		0.125	0.686	0.043
DS	Pearson Correlation	0.159	-.512**	-.244*	0.186	1	0.189	-.344**
	Sig. (2-tailed)	0.192	0	0.043	0.125		0.12	0.004
Bsize	Pearson Correlation	-0.16	.251*	0.082	-0.05	0.189	1	-0.118
	Sig. (2-tailed)	0.188	0.038	0.503	0.686	0.12		0.335
LIQ	Pearson Correlation	0.094	0.016	-0.217	.244*	-.344**	-0.118	1
	Sig. (2-tailed)	0.444	0.896	0.073	0.043	0.004	0.335	

Source: researcher's computation (2019)

The table 4.4 shows the correlation matrix of the various variables with return on equity (a measure for performance) as the dependent variable. Similar to the earlier table 4.3, all the independent variables in table 4.4 were positively correlated with the return on equity with the exception of Average Disbursement Period and size of the business which was negatively correlated with a

value of -0.049 and -0.16 respectively. This means that average disbursement period and business size have an inverse relationship with return on asset and hence they move in different directions. This suggest that as the independent variables (average disbursement period and business size) increases by 0.001 the dependent variable represented by return on asset decreases by 0.049 and 0.16 respectively.

Also, average loan collection period, performance cycle, diversification and liquidity were positively correlated with the dependent variable (return on asset) with a value of 0.016, 0.057, 0.159 and 0.094 respectively. Therefore, as the independent variables (average loan collection period, performance cycle, diversification and liquidity) increase by 1percent the dependent variable also increases by 0.016, 0.057, 0.159 and 0.094 respectively.

4.4 Regression Results

To ascertain the overall effect of board characteristics on performance of microfinance firms in Ghana the study sought to use an OLS methodological technic to examine this relationship. Prior to this, the researcher performed a Hausman specification test to ascertain which estimation technique (fixed effect and random effect) is the most appropriate for the data. The specification suggested that since the $p\text{-value} < 0.05$ we are to reject the null hypothesis ($H_0 = \text{cov} \{x_i, \varepsilon\} = 0$). This is evident as in the presence of unobserved firm fixed-effect, panel fixed-effect estimation is commonly suggested (Wooldridge, 2002, pp. 265–291).

Table 4.3: Regression results with ROE as the dependent variable

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta	t		Lower Bound	Upper Bound
(Constant)	-.160	4.343		-.037	.971	-8.838	8.518
ACP	.056	.022	.498	2.526	.014	.012	.101
PC	.004	.003	.228	1.387	.170	-.002	.010
DS	2.139	.689	.492	3.102	.003	.761	3.517
Bsize	-.761	.290	-.348	-2.624	.011	-1.340	-.181
LIQ	.548	.450	.158	1.219	.228	-.351	1.447

Source: researcher's computations (2019), a. Dependent Variable: ROE, R-square 41.2.9% and adjusted R-square 38.9%

The variables were subjected to regression analysis and table presents the regression results derived with return on equity as the dependent variable. In analysing the regression model, the average loan disbursement period variable was excluded because it was found to be perfectly predicted from the other independent variables. Also, the variable's tolerance value was 0, which suggests that the variance in the average disbursement period variable is already contained in or is redundant with the other variables hence justifying its exclusion.

Further, the R-square in the econometric model provides that the predictor variables together accounts for less than 50% (that is, 41.2%) of the variation in the dependent variable. Although the case, the researcher is of strong believe that the variables drawn as independent variables are

significant enough in explaining the variation in the return on asset thus the performance level of the firm within a given period of time as they were suggested by literature.

The results presented in the table indicate that the average loan collection period, diversification and size variables have significant implications on the return on equity variable of the microfinancing companies employed in this study. Specifically, there was a positive and significant relationship between average loan collection period and return on equity (5% significance level). This finding indicates that the average loan collection period of the microfinance companies has an important influence on their return on equity in the sense that the more the average loan collection period increases the more the return on equity increases. Also, the diversification was found to have a significant positive relationship with return on equity (1% significance level). This means the variables are directly related such that the more diversified the microfinance firms are the more the return on asset.

Likewise, a significant but a negative relationship was established between size and return on equity variables (5% significance level). This suggests that the more the microfinance companies increase in size the less return on equity for these companies. This could be as a result of the expansionary policies the companies will adopt to expand such as increased investment in assets thereby leading to a reduction in the amount of monies the companies can offer to shareholders.

Finally, the results revealed a positive but insignificant relationship between performance cycle and return on equity and liquidity and return on equity. This implies that the performance cycle

and liquidity variables have no associated relationship with the return on equity of the microfinance companies employed in the current study since any increase or decrease in the company's liquidity and performance cycle has no significant effect on their return on equity.

Also, to ensure robustness the researcher also used another variable of measuring performance to confirm the assertion above. This measure is known as the return on asset. A regression was run with the various variable to examine the relationship. Table 4.4 below shows the results for the effect of loan management and profitability and sustainability.

Table 4.4: Regression results with ROA as the dependent variable

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta	t		Lower Bound	Upper Bound
(Constant)	.060	.061		.971	.335	-.063	.182
ACP	-.001	.000	-.419	-2.441	.017	-.001	.000
PC	-0.0009	.000	-.297	-2.079	.042	.000	.000
DS	.017	.010	.240	1.737	.087	-.003	.036
Bsize	-.001	.004	-.032	-.275	.784	-.009	.007
LIQ	.031	.006	.549	4.860	.000	.018	.044

Source: researcher's computations (2019), a. Dependent Variable: ROA, R-square 60.9% and adjusted R-square 58.4%

The variables were subjected to regression analysis and table presents the regression results derived with return on asset as the dependent variable. In analysing the regression model, the average disbursement period variable was excluded because it was found to be perfectly predicted from the other independent variables. Also, the variable's tolerance value was 0, which suggests that the variance in the average disbursement period variable is already contained in or is redundant with the other variables hence justifying its exclusion.

Further, the R-square in the econometric model provides that the predictor variables together accounts for more than 50% (that is, 60.9%) of the variation in the dependent variable. The researcher is of strong believe that the variables drawn as independent variables are significant enough in explaining the variation in the return on asset thus the performance level of the firm within a given period of time. This also provides a strong indication that the model is fit for the regression and successfully explain the dependent variable as represented by return on asset.

The results presented in the table indicate that the average loan collection period, performance cycle, diversification and liquidity variables have significant implications on the return on asset variable of the microfinance companies employed in this study. Specifically, there was a negative and significant relationship between average loan collection period and return on asset (5% significance level). This finding indicates that the average loan collection period of the microfinance companies have an important influence on their return on asset in the sense that the more the average loan collection period increases the more the return on asset value decreases.

This finding follows the logical explanation that the less time it takes companies to recover their monies from their customer, the more their earnings and consequently the more their returns.

Also, the performance cycle was found to have a negative and significant relationship with return on asset (5% significance level). This means the variables are inversely related such that the longer the performance cycle the lesser the return on asset. Likewise, a negative but insignificant relationship was established between size and return on asset variables. This implies that the size variable has no association with the return on asset of the microfinance companies employed in the current study since any increase or decrease in the company's size has no significant effect on their return on asset. Also, a positive and significant relationship was found to exist between diversification and return on asset (10% significance level).

This means that the greater the diversification the greater the return on asset. Lastly, a positive and significant relationship was obtained between liquidity and return on asset (1% significance level). This suggests that the more the liquidity of microfinance companies used in the study increases the more their return on asset increases.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This presents the final chapter to the study of loan management and firm performance of microfinance companies in Ghana. In this chapter the researcher provides a comprehensive summary of all the major findings from the study and provides a conclusive argument to academic research. The research further provides some recommendations to the body of knowledge, industry players as well as policy makers to make sound decision based on the outcome of results from the study.

5.2 Summary of Major Findings

The study sought to examine the impact of loan management on the performance of some selected microfinance in Ghana. In order to achieve this the study narrowed the broader objective to examine the impact of loan management on firm performance of microfinance companies in Ghana, the study sought to determine the relationship between loan portfolio management in MFIs and financial sustainability, to assess the impact of loan portfolio management on MFI profitability, to recommend strategies for enhancing MFI sustainability. Further the performance measure was represented in two faces with "return on asset and return on equity". The summary is discussed below

Return on Equity (ROE)

With respect to return on equity as the measure for performance, it was found that the average loan collection period, diversification and size variables have significant implications on the return on equity variable of the microfinance companies employed in this study. Specifically, there was a positive and significant relationship between average loan collection period and return on equity (5% significance level). This finding indicates that the average loan collection period of the microfinance companies have an important influence on their return on equity in the sense that the more the average loan collection period increases the more the return on equity increases. Also, the diversification was found to have a positive and significant relationship with return on equity (1% significance level). This means the variables are directly related such that the longer the diversification in loan portfolio the more the return on asset. The significant but negative relationship was established between size and return on equity variables (5% significance level). This suggests that the more the microfinance companies increase in size the less return on equity for these companies. This could be as a result of the expansionary policies the companies will adopt to expand such as increased investment in assets thereby leading to a reduction in the amount of monies the companies can offer to shareholders.

Return on Asset (ROA)

With the robustness of the measure, return on asset it was found that the average loan collection period, diversification and liquidity variables have significant implications on the return on asset variable of the microfinance companies employed in this study. Specifically, there was a negative and significant relationship between average loan collection period and return on asset (5%

significance level). This finding indicates that the average loan collection period of the microfinance companies has an important influence on their return on asset in the sense that the more the average loan collection period increases the more the return on asset decreases. This finding follows the logical explanation that the less time it takes companies to recover their monies from their customers, the more their earnings and consequently the more their returns. Also, the performance was found to have a negative and significant relationship with return on asset (5% significance level). Thus, are inversely related such that the longer the performance cycles the lesser the return on asset. A positive and significant relationship was obtained between liquidity and return on asset (1% significance level). This suggests that the more the liquidity of microfinance companies used in the study increases the more their return on asset increases.

5.3 Conclusion

Consequently, loan management of every microfinance company has been proven in the literature to be the blood current in the vessels of a business entity. In order to save the survival of the business entity, management of this part is claimed to be key to the business entity and the engine to the survival of the organization. Therefore, microfinance firms especially those in Ghana must consistently measure the value of loan portfolio that help them to increase profitability and hence sustainability. It was for this purpose that the study sought to examines the impact of loan management on firm performance of microfinance companies in Ghana. With this study sought to determine the relationship between loan portfolio management in MFIs and financial sustainability, to assess the impact of loan portfolio management on MFI profitability, to recommend strategies for enhancing MFI sustainability.

To achieve this the study employed an econometric approach using 10 microfinance firms listed on the Ghana Stock Exchange with data from firm annual financial accounting report for a period of 10 years from 2007-2016. With performance indicators, return on equity the study found the average loan collection period, performance cycle, diversification and liquidity variables to have significant implications on the return on asset (robust measure) variable of the microfinance companies employed in this study and the performance cycle to have a negative and significant relationship with return on asset (5% significance level). Also, the study the average loan collection period, diversification and size variables have significant implications on the return on equity variable of the microfinance companies employed in this study and the diversification was to have a positive and significant relationship with return on equity (1% significance level).

Therefore, this research concludes that efficient loan management is critical for the profitability of firms and sustainability of microfinance companies, thus, financial managers can create value for their shareholders by implementation of effective loan management systems.

5.4 Recommendations

The findings indicated that loan management, particularly managing loan disbursement and collection with diversified portfolios are significantly important for the purpose of increasing firm revenue and decreasing high risk and operating costs. Loan management has an important role for value creation and sustainability and as such, it remains particularly important for the purpose of increasing revenue through the management of customers.

Thus, based on the findings, firms should focus on reducing the enhancing it loan collection period as the length of increasing periods affect the stability of the firm. Firms should strive to have a shorter performance cycle because this means that the organization will be more efficient in managing the cash flow. Additionally, the firm needs to collect loans more quickly to reduce default, this can be enhanced by improving the efficiency of the collection processes, offering discounts and charging interest on overdue accounts.

Secondly, firms should consider increasing portfolio diversification as it reduces the tendency of instability. Yet, to do so, microfinance companies must strategically consider major investment options and portfolio carefully. To enhance stability, firms can also consider the transfer of risk by insuring loan disbursed. Therefore, any bad debt or loan default could be recovered from insurance companies.

Finally, the firm should pay its own bills slowly by utilizing the credit periods offered by the suppliers and at the same time observe the credit terms.

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