

**UNIVERSITY OF EDUCATION, WINNEBA
COLLEGE OF TECHNOLOGY EDUCATION**

**THE ROLE OF CREDIT RISK MANAGEMENT IN THE LIQUIDITY
POSITION OF MICROFINANCE COMPANIES IN GHANA: CASE STUDY OF
SELECTED MICROFINANCE INSTITUTIONS IN THE KUMASI
METROPOLIS**



ABRAHAM ANTWI

JUNE, 2019

**UNIVERSITY OF EDUCATION, WINNEBA
COLLEGE OF TECHNOLOGY EDUCATION**

**THE ROLE OF CREDIT RISK MANAGEMENT IN THE LIQUIDITY
POSITION OF MICROFINANCE COMPANIES IN GHANA: CASE STUDY OF
SELECTED MICROFINANCE INSTITUTIONS IN THE KUMASI
METROPOLIS**



**A PROJECT REPORT IN THE DEPARTMENT OF ACCOUNTING STUDIES,
SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE
DEGREE OF MASTER OF BUSINESS ADMINISTRATION (ACCOUNTING) IN
THE UNIVERSITY OF EDUCATION, WINNEBA**

JUNE, 2019

DECLARATION

STUDENT'S DECLARATION

I ABRAHAM ANTWI hereby declare that this thesis is the results of my own original research and that no part of it has been presented for another degree in this University or elsewhere.

Signature:

Date:

SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of this project report was supervised in accordance with the guidelines on supervision of project work laid down by the University of Education, Winneba.

Supervisor's Name: MR. ALFRED MORISON

Signature:

Date:

ACKNOWLEDGEMENT

I wish to express my profound gratitude to my thesis supervisor, Mr. Alfred Morison, Lecturer at University of Education, Winneba - Kumasi campus, who spent a lot of time on my work and the tireless effort he made, despite her heavy schedules, in reading and making fruitful suggestions on this piece of work.

I am particularly indebted to my wife Mrs. Jerryne Asante Antwi, and my lovely children; Chris Antwi, Wiseborn Asante Antwi, Oswald Kofi Antwi and Jerryne Achiaa Antwi. who supported me spiritually and also gave me the moral support to take on this course.

I would also like to express my sincere gratitude to my elder brother, Evans Antwi Boasiako (elder) and all my siblings and also to my late parents; Opanin Kwabena Antwi (A.K.A Opanin Kokro) and Maame Ama Pokuah.

Lastly, mention should also be made of my in-laws, Mr. Wiseborn Yaw Asante and Mrs. Esther Mensah (Junior), both in Canada for their contributions in my life. I say God richly bless you all.

TABLE OF CONTENTS

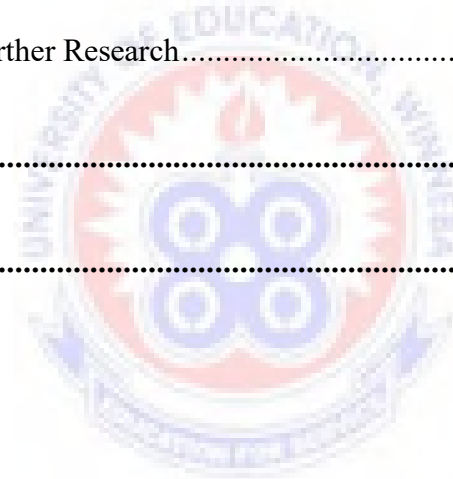
CONTENTS	PAGES
DECLARATION	i
ACKNOWLEDGEMENT	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	viii
LIST OF FIGURES	ix
ABSTRACT	x
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background to the Study.....	1
1.2 Statement of the problem	6
1.3 Theoretical and Conceptual Framework	7
1.4 Purpose of the Study	10
1.5 Specific Objectives of the Study	10
1.6 Research Questions.....	10
1.7 Significance of the Study	10
1.8 Scope of the Study	11
1.9 Organization of the Study	12
CHAPTER TWO	13
REVIEW OF RELATED LITERATURE	13
2.0 Introduction	13

2.1 Overview of Microfinance in Ghana	13
2.2 Concept of liquidity and the liquidity creation theory	17
2.3 The Effectiveness of Credit Management Practices used by the selected MFIs.....	22
2.4 Characteristics of Liquidity.....	26
2.5 Measures of liquidity	26
2.5.1 Liquidity ratios	27
2.5.2 Cash ratio.....	29
2.5.3 Liquidity Creation Theory.....	30
2.5.4 Liquidity Mismatch Index (LMI)	31
2.5.5 Net Stable Funding ratio	32
2.6 Types of risks faced by microfinance institutions	33
2.6.1 Credit risk.....	33
2.6.2 Operational Risk	35
2.6.3 Cash movement risk.....	35
2.6.4 Interest rate volatility	36
2.6.5 Liquidity risk	36
2.6.6 Foreign exchange risk	36
2.7 MFIs' Risk Management and Risk Coping Strategies.....	37
2.7.1 Risk-return trade-off	37
2.7.2 Credit Risk Management (CRM).....	37
2.7.3 Risk Management Strategies	38
2.8 Concepts of Credit Management in Banking	39
2.9 Credit Application	40

2.9.1 Credit Appraisal Processes	40
2.9.2 Credit Disbursement	41
2.10 Credit Monitoring and Collection Techniques	41
2.10.1 Credits in Rural Banks	42
2.10.2 Overdrafts	43
2.10.3 Loans	43
2.11 Credit Risks Associated with Rural Banks	44
2.11.1 Cost of Borrowing.....	45
2.11.2 Credit Worthiness of Borrowers.....	46
2.11.3 Poor Lending Behaviour	47
2.11.4 Insufficient Security.....	48
2.11.5 Poor Loan Monitoring.....	48
2.11.6 Weak Regulatory Control.....	49
2.12 Effective Credit Management Practices.....	50
2.12.1 The Basle Committee on Banking Supervision Model.....	50
2.12.2 Establishment of Standardized Credit Environment.....	51
2.12.3 Operating Under Sound Process of Granting Credits	51
2.12.4 Measurement and Monitoring in Credit Procedures	51
2.12.5 Supervisor's Role.....	52
2.12.6 Collateral/Security Requirements	52
2.12.8 Credit Rationing.....	53
2.12.9 Credit Policy	53
2.13 Measures of Banks Performance	54

2.14 Effect of Credit Management on Banking Performance.....	56
2.14.1 Profitability.....	56
2.14.2 Liquidity.....	58
CHAPTER THREE.....	60
METHODOLOGY OF THE STUDY.....	60
3.1. Introduction.....	60
3.2. Research Design.....	60
3.3. Population of the Study.....	61
3.4. Sample and Sampling Technique.....	61
3.5. Data Collection Instrument.....	62
3.6 Validity and Reliability.....	62
3.7. Pilot Testing.....	63
3.8. Data Collection Procedure.....	63
3.9. Data Analysis Procedure.....	64
3.10. Ethical Considerations.....	64
CHAPTER FOUR.....	66
RESULTS AND DISCUSSIONS.....	66
4.0 Introduction.....	66
4.2 Presentation of Research Objectives.....	68
4.2.1 The credit management practices used by the selected MFIs in the Kumasi Metropolis.....	68
4.2.2 The credit risks faced by microfinance institutions.....	73

4.2.3 Strategies that are instituted to monitor and control credit risk in these MFI institutions	77
CHAPTER FIVE	81
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS	81
5.0 Introduction	81
5.1 Summary of Findings.....	81
5.2 Conclusions	83
5.3 Recommendations.....	84
5.4 Suggestions for further Research.....	85
REFERENCES	86
APPENDIX A	99



LIST OF TABLES

TABLES	PAGES
Table 4.1: Demographic information of the respondents	66
Table 4.2 Categories of loan customers	67
Table 4.3 Credit risk reducing tools and evaluate their importance to your MFI	69
Table 4.4: Factors considered before granting loans	70
Table 4.5: Monitoring the loan portfolio	72
Table 4.6: The credit risks faced by microfinance institutions	74
Table 4.7 Strategies that are instituted to monitor and control credit risk in these MFI institutions	77



LIST OF FIGURES

FIGURES	PAGES
Figure 1: Conceptual Model of the Study	19



ABSTRACT

The purpose of the study was to assess the role of credit risk management in the liquidity position of microfinance companies in Ghana: case study of selected MFIs in the Kumasi Metropolis. The researcher used descriptive research approach. Quantitative research approach was used. The target population of the study was made up of employees of selected MFIs in the Kumasi Metropolis that comprised of 156 employees. Census method was used to select all the 156 respondents for the study. Questionnaire was the main instrument used to gather primary data. The statistical analysis such as frequencies, percentages and mean were used to analyze the questionnaire. The study findings concluded that the credit risk reduction tools that were used by the MFI to manage loan default were staff training, client project evaluation, internal controls, customer affordability calculation, credit granting policy, debt collection techniques and credit scoring models. The factors MFI considered before granting loans to clients were ability to pay, future prospects of the business, profitability of the business, cash flow statement, profit and loss statement, security, character of customers, borrower repayment history and experience of credit utilization. The credit risks faced by microfinance institutions were over reliance on guarantors, carelessness and poor underwriting typically evidenced by inadequate loan documentation, lack of current financial information and a lack of protective covenants in the loan agreement, communication ineffectiveness and ineffective loan monitoring cause loan default. The study recommended that the management of the MFI must organize periodic workshops and seminars to educate credit officers on loan approval, credit appraisal techniques, loan supervision strategies and monitoring strategies to improve loan recovery in the MFI.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Microfinance Institutions (MFIs) refer to financial institutions which provide financial services to poor economic agents who are typically excluded from the formal banking system for lack of sufficient collateral (Murdoch 2010). Lack of access to credit can be understood within the context of the absence of collateral that the economically challenged should provide to conventional financial institutions coupled with the various difficulties and high costs involved in dealing with large numbers of small, often illiterate borrowers (Weiss & Montgomery 2015). The poor mostly rely on money from money lenders at high interest rates or friends and family who themselves are cash trapped. MFIs try to overcome these obstacles through initiatives such as group lending and regular savings schemes. Microfinance is defined as the provision of financial services to low-income economic agents and very poor self-employed and/or unemployed people (Otero, 2009). These financial services according to Ledgerwood (2009) generally include savings and credit but can also include other financial services such as insurance and payment services.

Schreiner & Colombet (2011) on the other hand, define microfinance as the attempt to improve access to small deposits and small loans for poor households neglected by the formal banking sector. All around the world, poor economic agents are excluded from formal financial and banking systems. As a result of this exclusion, the poor, especially those in the developing world have developed a wide variety of informal, community-based financial arrangements to meet their financial needs. Over the last twenty years, an

increasing number of formal sector organizations (nongovernment, government, and private) have been created for the purpose of meeting those same needs. Such informal and formal arrangements offering financial services to poor economic agents come to be commonly referred to as microfinance (Brau & Woller, 2014).

Tshorhe et al. (2011) define credit risk as the probability that some of a bank's assets, especially its loans, will decline in value and possibly become worthless. In the banking industry, loans make up a large proportion of firm assets. In most cases, banks' portfolios are relatively illiquid and exhibit the highest credit risk (Koch & MacDonald, 2010). The management of credit risk is important to banks for the reason that banks usually hold little of equity relative to their asset base and that a small percentage of gross loans going bad can push a bank to the verge of failure. Thus, management of credit risk is very important and central to the health of a bank and indeed the entire financial system (Tshorhe et al., 2011). In order to mitigate credit risk, banks employ the use of an array of techniques. These include but are not limited to collateral guarantees, netting off of loans against deposits of the same counter-party, credit insurance, factoring, debt collection, surety bonds, and letters of credit.

Stutz (2015) admits that the use of these techniques may be successful in mitigating the credit risk of a bank but is quick in adding that these techniques also elicit some other types of risk citing legal, operational, liquidity and market risks. According to GTZ (2010) the increased emphasis on risk management reflects a fundamental shift among regulators and bank managers to better anticipate risks rather than just react to them. This new shift places more importance on "self-supervision" and a proactive approach by board members and managing directors to managing their financial institutions (GTZ,

2010). Santomero (2017) and Basel (2009) posit that it is essential for commercial banks to have an effective credit risk management system in place in order to minimize loan losses and so as to minimize the credit risk. Best (2011) argued that the purpose of risk management is to prevent an institution from suffering unacceptable losses. In his opinion, an unacceptable loss is any form of loss that causes an institution to fail or materially damages the institution's corporate position. As a result, banks must monitor the ever changing micro and macroeconomic environment to identify the risks they are exposed to and find ways of managing these risks.

To better manage credit risk, management must set up a credit administration team to ensure that once credit is granted it is properly maintained and administered. For Aduda and Gitonga (2011), procedures for measuring a firm's overall exposure to credit risk as well as stringent internal rating systems should be adequate and that companies that do not currently have independent risk management structures should set up units that will concentrate fully on the risk management function. Hamzawi (2010) also noted that good risk management necessitates the commitment of banks to certain principles. He explained these principles as: (1) each MFI should have an independent risk management committee, which should concern itself with policy preparation, policy implementation and policy monitoring and risk measurement on a regular basis. (2) MFIs should classify the various risks and assign the types of risks that fall into that class, develop a specific measure to control the risk in each bank and determine a limit of credit and liquidity. (3) An assessment of the assets and investments of each bank as a basic principle of risk and measurement of profitability should also be undertaken by the MFI. (4) The MFIs must also use modern information systems for risk management and security controls as

deemed fit by the independent internal audit committee, which should review the MFI's entire business, including risk management.

The growth in demand for microfinance services and products in many African countries including Ghana raises questions about sustainability of the industry. In particular, as noted by Bruet (2014), risk management has emerged as one of the key challenges faced by any microfinance institution, whether the institution is an NGO, credit union, finance company or specialized bank. These risks, according to Bruet (2014) vary and require specific strategies to manage. In order to manage potential risks, Ledgerwood (2008) advocates an effective regulatory and policy framework as well as the integration of essential components of institutional capacity building, such as product design, performance measuring and monitoring, and management of microfinance institutions. For microfinance institutions (MFIs), risk management is a daily part of business.

The main idea of risk management is well known that risk levels should be directly proportional to expected returns. MFIs which are able to manage these risks will be successful (Oberdorf, 2009). Like all financial institutions, microfinance institutions (MFIs) face risks that they must manage efficiently and effectively to be successful. If risk is not managed well, MFIs will likely fail to meet their social and financial objectives. When poorly managed risks begin to result in financial losses, donors, investors, lenders, borrowers and savers tend to lose confidence in the organisation and current and potential sources of funding will be lost. When investment funds dry up, MFIs will not be able to meet its main objective of providing financial services to the poor thereby losing its core business and thus becoming unsustainable.

Managing risk is a complex task for any financial organisation, and progressively becoming important in a world where economic events and financial systems are linked. Global financial institutions and banking regulators have emphasized risk management as an essential component for financial long-term success. According to Parker (2009), there are two kinds of risks, namely market risk and specific risk (or non-market risk). Market risk by definition is the risk which is common to an entire class of assets or liabilities. Market risk is an investing term referring to the risk an investment security or group of securities will decline in value.

This potential for decline in value may come from underlying economic and financial market factors, such as changes in law, changes in interest rates, extreme weather or political environment (Parker, 2009). Most MFIs invest in medium and long-term financial instruments in emerging markets. These forms of investments have a distinctive set of risk to investors. On the one hand, investors face risks that are inherent to the nature of the micro-finance sector, while on the other hand various risks emanate from the country risks typical of developing markets. With regard to country risks, investors need to be aware of the fact that legal, institutional and macroeconomic situations in developing countries differ considerably from those in developed countries. Various forms of risk might emerge for investors due to the lower standards of financial reporting, greater political instability, exchange rate controls, currency devaluations, and liquidity crunches, restrictions on the transfer of private capital or on investments of foreigners. This study would therefore, assess the role of credit risk management in the liquidity position of microfinance companies in Ghana, using selected MFIs in the Kumasi Metropolis as case study.

1.2 Statement of the problem

One of the major challenges facing commercial banks credit facilities is the fear that clients may not honour their indebtedness. Whiles some people find it difficult to access loans, others who have the opportunity to access the loans fail to pay back the loans on time making it difficult for others to also enjoy the same facility. Loan default has been a tragedy for the MFIs in the Kumasi Metropolis as it leads to a system failure to implement appropriate lending strategies and credible credit policies. In addition, it discourages the financial institutions from refinancing the defaulting members, which put the defaulters once again into vicious circle of low productivity.

Liquidity problems in one or few banks may lead to bank runs, and contagion to other banks, resulting in a serious loss of confidence in the banking system of the country (Ismael, 2010). Bank runs may lead otherwise solvent banks to experience large losses as they struggle to mobilize less liquid assets to meet liquidity risk. These losses could quickly erode the capital position of still weakly capitalized banks (Muguomba et al., 2013). Thus, a sound management of liquidity is needed if banks are to continue to thrive and serve customers (Ismael, 2010), as well as give the average Ghanaian enough confidence in the banking system, considering the recent trends of collapse of some Rural Banks and Microfinance Institutions across the country. For example, in 2013, several media houses reported the collapse of more than thirty (30) microfinance institutions across the country, within the first quarter of that year, as result of their inability to sustain their operations (Ghana Business News, 2013).

1.3 Theoretical and Conceptual Framework

As argued earlier credit risk is when a borrower fails to meet his obligations at the agreed time of which it subsequently leads to a loan default. Various scholars within the literature have identified series of factors that degenerate into credit risk. For instance, authors like Nijskens and Wagner, (2011), Breuer, Jandacka, Rheinberger and Summer, (2010) as well as Saunders and Allen (2012) established factors such as; poor institutional governance, poor management control, inappropriate laws, limited institutional capacity, inappropriate credit policies, volatile interest rates, low capital and liquidity levels and government interference and inadequate supervision by the central bank as the main sources of credit risk. To the authors most of these sources are interrelated thus; the cause of one factor may degenerate into another cause. For instance, lack of management control may lead to laxity in credit assessment as well poor lending practices on the part of personnel at the credit department.

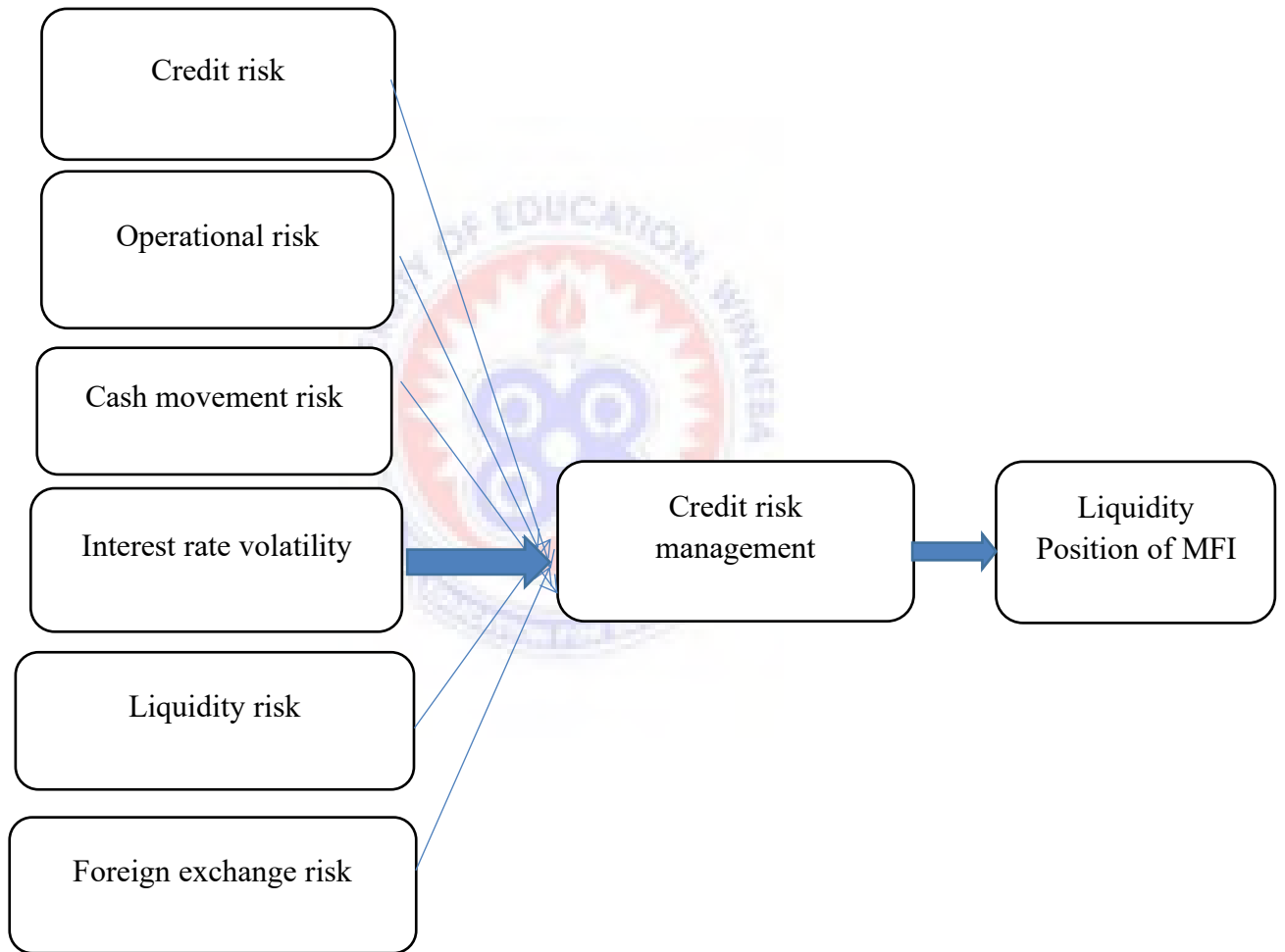
On the other hand, Apanga et al. (2016) identified different sources of credit risks in their study. To them factors such as; corporate and small business commercial loans, interbank transactions, trade financing and foreign exchange transactions were the main sources of credit risk in Ghanaian commercial banks operations. Interestingly, the sources of risks identified in Apanga et al. (2016) are quite different from the ones provided by the earlier authors. For instance, if you look at the sources espoused in Apanga et al. (2016) work, one could say that they were largely influenced by the banks portfolios thus, the categories of businesses the banks dealt with on the daily basis. However, what the earlier authors identified in a way seems to presents the actions or factors that could be a potential source of credit risks to financial institutions. Nevertheless, whichever way one

may decide to identify its sources of credit risk from is valid since all the identified factors have the high possibility of creating potential credit risks.

Equally, other authors like Fukuda (2012), Giesecke and Kim (2011) together with Nijskens Wagner and Marsh (2006) identified systematic risk as one of the sources of credit risk. According to Fakuda (2012) systematic risk is when a borrower fails to meet his obligation repayments hence having consequential effects on other borrowers within an economy. For instance, Giesecke and Kim (2011) and Nijskens and Wagner (2011) established this domino effect in their study when they reported that the mortgage crisis recorded in 2009 made it difficult for mortgage companies to meet their financial obligation hence making it difficult for the banking institution within the US meet their liquidity needs. To the author this in effect spread throughout other sectors of the economy, causing a lockup in liquidity making banks refusing to lend money out for the fear that it may result in defaults.

Evidence from the enumerated studies suggest that there are no universal sources of credit risk. For instance, what may be identified by a bank as its source of credit risk may not be viewed by another bank as its source of credit risk? For example, per the Bank of Ghana regulations Tier 2 banks (i.e. microfinance institutions) are not permitted to trade in foreign exchange transactions. Accordingly, foreign exchange risk identified in Apanga etal. (2016) cannot be a source of credit risk for microfinance institutions. Likewise, the loan portfolios microfinance institutions deal with are relatively small and personal loans hence, its sources of risk will be different from that of commercial banks. These views confirm the claim that sources of credit risks are not universal and largely informed by the industry a bank finds itself or operate in.

Equally, Walker (2009) in his seminal paper identified three major sources of credit risk; business activities, strategic sources and external sources. Walker (2009) further identified the credit risk factors that constitute business activities as, portfolio and product mix, new products and delivery channels and third party originations and target market. Clearly the factors identified under the business activities are consistent with the sources of credit risks Apanga et al. (2016) identified in their study.



Conceptual Model of the Study

Source: Authors Construct (2019)

1.4 Purpose of the Study

The purpose of the study was to assess the role of credit risk management in the liquidity position of microfinance companies in Ghana: case study of selected MFIs in the Kumasi Metropolis.

1.5 Specific Objectives of the Study

The specific objectives include:

1. To evaluate the effectiveness of credit management practices used by the selected MFIs in the Kumasi Metropolis.
2. To identify the credit risks faced by microfinance institutions.
3. To identify strategies that are instituted to monitor and control credit risk in these MFI institutions.

1.6 Research Questions

1. What are the effectiveness of the credit management practices used by the selected MFIs in the Kumasi Metropolis?
2. What credit risks are faced by microfinance institutions in the Kumasi Metropolis?
3. What are the strategies that are instituted to monitor and control credit risk in these MFI institutions?

1.7 Significance of the Study

The study improved the loan portfolios of the selected micro-finance institutions in the Kumasi Metropolis to generate a significant amount of interest income through effective credit risks management practices. Moreover, the study outcome will play a critical role

in determining the financial performance of the micro-finance institutions and it can therefore be said that the healthier the credit risk management of the MFI, the better its liquidity performance will be. In the light of the importance of the health of the credit portfolio management, it is essential that a study be conducted to identify the problems that negatively affect the loan performance management of the MFI. The outcome of this project would enable MFIs to adopt workable strategies to control the problem of a growing non-performing loan portfolio in the institution and thereby improve its financial performance and profitability.

Secondly, the project would be of benefit to the Ghanaian banking and non-banking financial sectors as a whole since the financial (Lending institutions) in the country operate within the same environment and deal with customers of similar characteristics.

Thirdly, the project could serve as a source of reference for other related research works in the future. Thus, the study would contribute immensely to the development of the microfinance sector which play a significant role in the economy.

1.8 Scope of the Study

The purpose of the study was to assess the role of credit risk management in the liquidity position of microfinance companies in Ghana: case study of selected MFIs in the Kumasi Metropolis. This means that this study would be geographically limited in scope to the selected MFIs in the Kumasi Metropolis of the Ashanti Region of Ghana. However, the study is conceptually limited in scope to the following research objectives including to evaluate the effective credit management practices used by the selected MFIs in the Kumasi Metropolis. Secondly to assess the types of credit risks faced by microfinance

institutions and identify strategies that are instituted to monitor and control credit risk in these MFI institutions. The analysis of the study will be based on these objectives.

1.9 Organization of the Study

The study is presented in five chapters. The first chapter which is the introduction will focus on the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, scope of the study and the organisation of the rest of the study. Chapter two which will review comprehensive theoretical and empirical literature on the subject matter and will provide conceptual framework of the study. Chapter three will deal with the methodology of the research which comprises the research design, the research population, sample and sampling methods. It also considered the sources of data and data collection instruments, methods of data collection and analysis of data. Chapter four will focus on the presentation and analysis of research results. Figures, tables depicting frequency and percentages will be used to discuss and display the findings of the study. Finally, chapter five will contain the summary of the study, conclusions drawn from the findings, recommendations of the study and suggestions for further research.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter reviewed related literature to cover overview of microfinance in Ghana, concept of liquidity and the liquidity creation theory, the effectiveness of credit management practices used by the selected MFIs, characteristics of liquidity, measures of liquidity, types of risks faced by microfinance institutions, credit risk, operational risk, cash movement risk, interest rate volatility, liquidity risk, foreign exchange risk, MFIs' risk management and risk coping strategies, concepts of credit management in banking, credit application, credit appraisal processes, credit disbursement, credit monitoring and collection techniques, credits in rural banks, overdrafts, loans, credit risks associated with rural banks, cost of borrowing, credit worthiness of borrowers, poor lending behaviour, insufficient security, poor loan monitoring, weak regulatory control, effective credit management practices, the Basle committee on banking supervision model, establishment of standardized credit environment, collateral/security requirements, credit rationing, credit policy, loan classification and provisions, measures of banks performance and effect of credit management on banking performance.

2.1 Overview of Microfinance in Ghana

There is well documented evidence indicating that the concept of microfinance has always been part of the way of life of the average Ghanaian. The most ubiquitous and indigenous microfinance scheme, known as 'Susu' is said to have existed in the country since the early 1900s. The country also boasts of the distinction of being the home to the first Credit Union in Africa, which was established in 1955 by the Canadian Catholic

Missionaries. In view of this long history of microfinance activity, there is fairly good amount of scholarly work on the microfinance sector in Ghana. In particular, as a result of a series of financial sector reform policies implemented in recent years resulting in the growth and expansion of the microfinance industry, there is a growing a number of scholarly work exploring the link between the growth in the microfinance sector on one hand, and economic development and poverty reduction on the other hand (see for e.g. Adjei, 2010; Asiama & Osei, 2007; Steel & Andah, 2013).

Thus, the existing literature on microfinance in Ghana tends to focus on two broad areas, namely, the nature and scope of regulatory and legislative reforms in recent years to integrate the microfinance sector in the mainstream of economic activities, and how the microfinance sector could spur on economic development and poverty reduction. Steel & Andah (2013) whose work focuses on the changing landscape of the microfinance sector as a result of new legislative reforms, have noted that these reforms represent the development of a national strategic framework by the Ghanaian authorities to remove impediments to the provision and delivery of financial services to micro and small-scale enterprises.

The second category of the literature as noted above focus on the potentials of the growth in the microfinance sector for poverty reduction and economic development. In Ghana, much like any sub-Saharan African country, poverty is largely a rural phenomenon. Rural poverty is estimated to contribute to approximately 85% of the national poverty. Poverty is highest among self-employed households, farmers and petty traders.

According to Adjei (2010), numerous attempts have been made in the past towards poverty reduction in Ghana. Such interventions included the provision of subsidized

credit by Governments in the 1950s when the popular belief was that the lack of funds was the ultimate hindrance to poverty reduction. In the 1960s and 1970s the provision of micro-credit mainly through NGOs became the popular theme. Steel & Andah (2014) have noted that the early 1990s saw a formalization of microfinance institutions (MFIs) and finally since the mid-1990s the commercialization of MFIs with microfinance and its institutions becoming a part of the mainstream financial sector.

According to the United Nations (2010), indigenous based industrialization should be seen as the process of mobilizing capital towards productive ventures. In their respective studies on the role of microfinance for poverty reduction, Adjei (2010), and Steel & Andah, (2013) concluded that since more than 75% of the Ghanaian population lives under \$2 a day, microfinance appears to be the most appropriate means of providing financial services to majority of the Ghanaian population. In furtherance of this objective, between 2001 and 2006, the Rural Financial Services Project (RFSP) estimated at US\$22.96 million was implemented by the Bank of Ghana.

The aim of the project was to provide a coherent framework for rural economic transformation and growth. The RFSP aimed at broadening and deepening financial intermediation in the rural areas through effective linkages between the formal rural and micro-finance institutions and informal institutions operating in the rural areas. Thus, microfinance within the Ghanaian context is perceived as a financially sustainable tool to improve the lot of the poor

Access to financial services is imperative for the development of the informal sector and also helps to mop up excess liquidity through savings that can be made available as investment capital for national development (Jain, 2016; Littlefield et.al., 2013; Mahmud,

2013). According to the Ghana Microfinance Institutions Network (GHAMFIN), there are more than 233 MFIs operating in Ghana, functioning within various frameworks such as banking institutions, NGOs, Christian Organization and non-banking financial institutions. According to official assessments by the government of Ghana, over 50% of demands for micro-financial services by existing clients are not met due to limited access to lending funds. Also of the total demand for micro financial services, less than 10% is presently being met by the formal and semi-formal MFIs; currently microfinance services in Ghana reach about 300,000 people against the potential 3,000,000 active and bankable poor (see also Adjei, 2010).

From the foregoing, it is clear that microfinance has emerged as an important financing mechanism in the quest by African countries like Ghana to reduce poverty and achieve sustained economic growth (Adjei, 2010; Asiama & Osei, 2007). Thus the provision of microfinance is not only a source of capital funds to the poor who are generally excluded from the financial services sectors of Ghana's economy, but also as part of the country's overall national development strategy. Despite this growing importance of the microfinance sector and its expected role however, the available literature on microfinance in Ghana tends to focus on the expansion of the sector through legislative reforms that enable the microfinance sector to expand its services and to ensure access to credit and financial services by a bigger segment of the population. There is very little focus of the existing literature on how the growing expectations and expansion in services of microfinance sector in Ghana relate to risks faced by the sector and measures put in place to manage these risks and to ensure that

while the needs of the public are met the interests of microfinance service providers are also protected.

Thus, while there is sufficient scholarly work exploring the evolution of the microfinance sector from the very early days to the present day with recent series of regulatory reforms as well as the focus on the increasing expectations on microfinance institutions as agents for social and economic change through the provision of credit, there is very little focus on risks faced by MFIs and the measures they adopt to safeguard against such risks. This is the gap that this study aims to fill.

2.2 Concept of liquidity and the liquidity creation theory

According to the modern theory of financial intermediation, banks perform two central roles in the economy, the first role is liquidity creation (e.g. Diamond and Dybvig 2013; Kashyap, Rajan, and Stein, 2012), and the second is risk transformation (Diamond, 1984). More empirical research has focused mainly on banks' role as risk transformers. Diamond and Dybvig (2013), for example pointed out that one of the key reasons why banks are fragile, is their role in transforming maturity and providing insurance with regard to depositors' potential liquidity needs.

Standard textbooks on financial intermediation (e.g., Greenbaum and Thakor, 2007; Freixas and Rochet, 2008) explain that banks are institutions that make loans funded by a mixture of equity provided by banks' stockholders and deposits from the public. More formally, banks engage in liquidity creation, which is a form of "qualitative asset transformation." In Diamond and Dybvig (2013), this liquidity creation makes the banks vulnerable to withdrawal risk, hence, liquidity risk.

Liquidity is an intuitive concept that is difficult to precisely describe and even more problematic when it comes to its appropriate measure. Olagunju, Adeyanju and Olabode (2011) add to this argument by stating that liquidity is a relative concept because there is no specific level of any balance sheet ratio that indicates that a firm is no longer liquid. Extant academic literature on bank liquidity creation is huge as compared to literature on its empirical measurement which is now evolving (Berger and Bouwman 2009; Brunnermeier, Gorton and Krishnamurthy 2011).

After the financial meltdown which compelled governments to intervene on a large and extraordinary scale to circumvent the collapse of the financial system, the concept of liquidity has become crucial to financial institutions, regulators and academia. Yet, a standardized definition and understanding of the concept of liquidity is still missing. According to Crockett (2008), “Liquidity is an elusive notion. It is easier to recognize than to define.” Nonetheless, a closer scrutiny shows that most of the various definitions of liquidity allude to time, immediacy, cost and flow concept.

Diamond and Dybvig (2013) propounded a model of bank runs and liquidity crises which is extensively considered by academia as the most influential in the field. They demonstrated bank’s business model in which daily activities of accepting inherently illiquid assets (e.g. mortgages) and granting liquid liabilities (e.g. deposits) predisposes banks to runs. In the Diamond and Dybvig (2013) model, the elementary ground for depositors’ withdrawals is a swing in expectations.

In other words, a run on a bank or a liquidity crisis occurs because bank’s assets, which are liquid but not secure, are not enough to cover fixed liabilities (i.e., demand deposits), and, as a consequence, depositors withdraw their monies to reduce the anticipated losses.

The models of Diamond and Dybvig (2013) and Gorton (2008) recognize that banks create liquidity by issuing short-term debt claims.

Diamond and Dybvig (2013) is the canonical model that lays emphasis on the importance of “funding liquidity” in understanding financial crises. More broadly, the banking literature concludes that when the financial sector holds liquid assets financed by short-term debt, there is the possibility of a run surface which, in turn, can precipitate a crisis.

However, some researchers have criticized the model saying that, Diamond and Dybvig did not explicitly state in their model that, it is not realistic to imagine and to anticipate every possible event that may precipitate liquidity crisis especially when contemporary banking business is extremely complex. Moreover, liquidity itself has proved to be a consequential risk.

Bryant (2010) and Berger (2013) define ‘liquidity creation’ as the fact that banks provide illiquid loans to borrowers while giving depositors the ability to withdraw funds at par value at a moment’s notice. Banks also create liquidity off the balance sheet through loan commitments and similar claims to liquid funds (Holmstrom and Tirole, 2010; Kashyap, Rajan, and Stein, 2012; Thakor, 2015; Berger and Bouwman 2009).

Kashyap, Rajan, and Stein (2012) for example, note similarities between some off-balance-sheet (i.e., contingent) assets and on-balance-sheet assets. In particular, an off-balance-sheet loan commitment becomes an on-balance-sheet loan when the borrower chooses to draw on the commitment.

Literature also describes a feedback system between capital problems and liquidity problems. (Allen and Gale, 2014). When the financial sector runs into liquidity problems, triggered by runs, the sector sells assets whose prices then replicate an illiquidity

discount. This low asset prices results in losses that drain capital, compromising liquidity further.

As maintained by Ioan and Dragos (2016), the management of liquidity risk presents two main perspectives both of which have an effect on a bank's profitability. They indicated that an inadequate level of liquidity may lead to the need to attract additional sources of funding associated with higher costs that will result in the reduction of the profitability of the bank and ultimately lead to insolvency. On the other hand, an excessive liquidity may lead to a fall in net interest margins and in consequence poor financial performance. The empirical suggest that, liquidity problems are often triggered by concerns that the bank is insolvent due to poor asset quality (Gorton, 2008).

Brunnermeier and Pedersen (2009) model the interaction between an institution's ability to raise funds ("funding liquidity") and the liquidity of the assets when it sells them ("market liquidity"). Here, when funding liquidity goes down, an institution provides less liquidity in the assets it trades, reducing the market liquidity of the assets. When these assets themselves serve as collateral for the loans taken on by the institution, the situation can precipitate an unfavourable feedback sphere, as declined market liquidity stiffens funding liquidity conditions, and vice versa.

Liquidity risk, according to the Basel Committee for Banking Supervision, includes two types of risk: funding liquidity risk and market liquidity risk. Funding liquidity risk is the risk that, a bank will not be able to meet efficiently both expected and unexpected current and future cash flow and collateral needs without affecting either daily operations or the financial condition of the firm. Market liquidity risk, first introduced by Keynes in the

eighteenth century, is the risk that a bank cannot easily offset or eliminate a position at the market price because of inadequate market depth or market disruption.

A number of researchers have also defined market liquidity as an asset's ability to be traded promptly without significant price movement and at a price close to its value. (Brunnermeier and Pedersen, 2009).

Nikolaou (2009) maintains that market liquidity risk is the systematic, non-diversifiable element of liquidity risk while Vento and La Ganga (2009) note that market liquidity risk is the risk that a financial institution such as a bank will be unable to easily offset or close out a position without considerably affecting the market price because of deficient market depth or market disruption.

In its standards aimed at reinforcing sound liquidity risk management and supervision, the Basel Committee on Banking Supervision defines funding liquidity as the ability to pay off or refinance liabilities and settle trades as and when they mature. The Global Financial Stability Report (2010) of the International Monetary Fund (IMF) also integrated the concept of solvency in its definition of funding liquidity risk. Although solvent, funding liquidity refers to the capability of an organization to raise funding and to honour agreed-upon payments on time.

Consequently, a bank is illiquid if it is unable to settle obligations. It is important to note, that these various definitions complement each other and also necessary to point out that funding liquidity is neither a ratio nor an amount. Rather, it conveys the extent to which an establishment is capable of satisfying its respective obligations.

2.3 The Effectiveness of Credit Management Practices used by the selected MFIs

The significance of holding adequate levels of liquid assets cannot be overemphasized. As originally proposed by Keynes (2016), a major advantage of a liquid balance sheet allows firms to undertake valuable projects when they arise. However, the importance of balance sheet liquidity is influenced by the extent to which firms have access to external finance. Economics and finance literature provide four potential reasons for firms to hold liquid assets; the transaction motive (Miller and Orr 2016), the precautionary motive (Opler, Pinkowitz, Stulz, and Williamson 2009), the tax motive (Foley, Hartzell, Titman, and Twite 2007) and finally the agency motive (Jensen, 2016).

A number of theoretical papers have also examined the motivation for banks to reserve liquid assets. For example, banks may decide to reserve liquidity for precautionary reasons if they believe they will be unable to obtain interbank loans when they are affected by temporary liquidity shortages (Allen and Gale, 2014). Diamond and Rajan (2009), and Acharya, Gale and Yorulmazer (2011) modelled a framework for the precautionary motives of holding liquidity as banks' response to fear of forced asset liquidation.

In Diamond and Rajan (2011) banks hoard liquidity anticipating future asset liquidation which, in the context of severe market disruptions, affords high expected return from holding cash. In the model of Acharya, Gale and Yorulmazer (2011), banks store liquidity to protect themselves against future liquidity shocks (precautionary motive) or to take advantage of potential sales (strategic motive).

Almeida, Campello and Weisbach (2014) modelled a firm's liquidity demand and argue that firms save cash out of cash flows (i.e., reserve liquidity) only if it anticipates being

financially constrained in the future. Banks can hold liquidity for various reasons such as the “precautionary” motive of insuring against their depositors’ uncertain liquidity needs and the “strategic” motive of being able to take advantage of profitable opportunities when they arise. They also argue that banks hold more liquid assets in those countries that have (i) less developed accounting standards; (ii) lower total market capitalization relative to GDP; and, (iii) lower liquidity in stock markets.

Olagunju, Adeyanju and Olabode (2011) also indicated that, banks hold adequate liquidity so as to meet three risks, namely: funding risk (the ability to replace net out flows of funds either through withdrawals of retail deposits or non-renewal of wholesale funds), Time risk (the ability to recompense for non-receipt inflows of funds if the borrower fails to meet their commitment at a specific time), and lending risk (ability to meet requests for funds from clienteles). Rochet (2008) in his study has stated some uses of funds (liquidity needs):

Banks give great attention to the stability of their funding sources such as equity capital, deposits, access to funds on the interbank markets and the Central Bank’s discount window, when it comes to managing their liquidity. The efficient management of the broader measure of liquidity, working capital, and its narrower measure, cash, are both important for a bank's profitability and well-being.

Banks often find imbalances between their assets and liabilities. Circumstances that could cause asset-liability imbalance and maturity mismatch risks are liquidity gap and liquidity need. These are influenced by one of the following: (i) the intention of depositors to place their funds in the short-term tenure of deposits; (ii) the downturn of business conditions

that cause the inability of entrepreneurs to repay the high credit rate from banks and; (iii) the asymmetric information among depositors, banks, borrowers and regulators.

According to Aspachs, Nier and Tiesset (2015), there are three mechanisms that banks can use to insure against liquidity crises: (i) Banks hold buffer of liquid assets on the asset side of the balance sheet. A large enough buffer of assets such as cash, balances with central banks and other banks, debt securities issued by governments and similar securities or reverse repo trades reduce the probability that liquidity demands threaten the viability of the bank. However, Cash reserves will not be sufficient if depositors withdraw simply because they are afraid that the bank will shut down due to a run by others on its deposits. (ii) The second strategy is connected with the liability side of the balance sheet. Banks can rely on the interbank market where they borrow from other banks in case of liquidity demand. However, this strategy is strongly linked with market liquidity risk. (iii) The last strategy concerns the liability side of the balance sheet, as well. The central bank typically acts as a Lender of Last Resort to provide emergency liquidity assistance to particular illiquid institutions and to provide aggregate liquidity in case of a system-wide shortage (Acharya et al., 2009).

Koch and MacDonald (2016) maintain that, there is a short-run trade-off between liquidity and profitability. The more liquid a bank is, the lower are its return on equity and return on assets, all other things being equal. In a bank's loan portfolio, the highest yielding loans are typically the least liquid. They add that, liquidity risk for a poorly managed bank closely follows credit and interest rate risk. Banks that experience large deposit outflows can often trace the source to either credit problems or earnings declines

from interest rate gambles that backfired. Potential liquidity needs must reflect estimates of new loan demand and potential deposit losses

Koch and MacDonald (2016) define banks' liquidity needs as:

Forecasted change in loans + change in required reserves – forecasted change in deposits.

Liquidity can be measured as a stock or as a flow. From the stock perspective, liquidity management requires an appraisal of holdings of assets that may be turned into cash. The determination of liquidity adequacy within this framework requires a comparison of holding of liquid assets with expected liquidity needs. Stock concept of liquidity management has been criticized as being too narrow in scope.

The flow concept of liquidity measurement views liquidity not only as the ability to convert liquid to assets into cash but also the ability of the economic units to borrow and generate cash from operators. This approach recognizes the difficulty involved in determining liquidity standards since future demands are not known. It also recommends accurate forecast of cash needs and expected level of liquidity assets and cash receipts over a given period of time for there to be a realistic appraisal of a bank's liquidity position.

Between the two concepts, the stock concept is the widely used and involved in the application of financial ratios in the measurement of liquidity positions of commercial banks. One of the popular financial ratios used in such measurement is liquidity ratios which measures the ability of the bank to meet its current obligations.

2.4 Characteristics of Liquidity

Liquidity, according to Olagunju, Adeyanju and Olabode (2011), has three features or characteristics, namely, Marketability, Stability and Conservatism. Liquid assets should be more marketable or transferable. That means, they are expected to be converted to cash easily and promptly, and be redeemed prior to maturity. All assets that cannot be redeemed at maturity are said to be illiquid.

Another quality of liquid asset is price stability. Based on this characteristic, bank deposits and short term securities are more liquid than equity investments such as common stocks and real estate due to the fact that the prices of the former are fixed and have lesser variability than the prices and value of the latter which experiences considerable fluctuation

They add that, the conservatism quality of liquidity refers to the ability of the holders of liquid assets to recoup the cost of the asset at the time of resale. Common stocks might not be considered highly liquid despite their ready marketability, going by this quality. This can be ascribed to the fact that there are periods when current prices of stock are lower than their initial prices. Considering these three qualities, therefore, people and firms choose to hold cash which is the only perfectly liquid asset.

2.5 Measures of liquidity

Various liquidity indicators have been developed to measure how liquid banks are. From the traditional current ratio, we now have the new liquidity standards, Liquidity Coverage ratio (LCR) and the Net Stable Funding ratio (NSFR) formulated by the Basel Committee. The importance of accurate liquidity measurement cannot be over stressed as

it reveals the liquidity positions of the banks through which the operators of the financial market, including regulators and other creditors adjudge liquidity status and the credit worthiness of the banks (Brunnermeier, Gorton and Krishnamurthy, 2011).

The question remains, what makes a good liquidity measure? Bai, Krishnamurthy and Weymullar (2014) argue that a liquidity measure should be beneficial for macro-prudential purposes. It should measure liquidity imbalances in the financial system, offering an early indicator of financial crises. It should also quantitatively describe the liquidity condition of the financial sector, and the amount of liquidity the Central Bank may be called upon to provide during financial crisis, hence, the power of forecasting liquidity demands.

Though liquidity can be measured by taking into account a bank's liquidity transformation gap, liquidity ratios are more famous and widely used. Researchers identify two approaches to measuring bank liquidity; liquidity gap/flow approach and liquidity ratio/stock approach (Bessis, 2009). Among the extensively used ratios of liquidity are the ratio of liquid assets to total assets, the ratio of liquid assets to total deposits, ratio of liquid assets to customer and short term funding, ratio of loans to total assets and the ratio of net loans to customer and short term funding.

2.5.1 Liquidity ratios

Liquidity ratios have not been without criticisms even though they serve as a useful planning and control tool in liquidity management. The disadvantage of these liquidity ratios lies in the fact that they do not always capture all, or any of liquidity risk. These measures may give wrong signals, contradictory signals, or no signals at all of actual changes in liquidity position (Scherr, 2009). Furthermore, Poorman and Blake (2015)

cautioned that adopting just the practice of using liquidity ratios would not be the solution to threats of liquidity risk. Their basis stemmed from the fact that, Southeast Bank, a large regional bank, utilized over 30 liquidity ratios for measuring liquidity, but failed eventually due to liquidity problems. It is therefore, of essence that beyond simple liquidity ratios, banks develop new forms of measuring liquidity risk.

While the Basel Committee on Banking Supervision (2010) proposed the maturity laddering method for measuring liquidity risk; Saunders and Cornett (2016) gave a strong suggestion that, banks could use the liquidity index, financing gap and the financing requirement, sources and uses of liquidity, peer group ratio comparisons and liquidity planning to measure their liquidity exposure. More to the point, Matz and Neu (2007) also indicated that banks could apply maturity mismatch, balance sheet liquidity analysis and the cash capital position approach to gauge liquidity.

Focusing on the ratios, the traditional Current ratio measures a bank's short term solvency and is calculated by dividing current assets by current liabilities. Even though it is difficult to authoritatively set one standard for all firms, a current ratio that is greater than one is adjudged satisfactory for most business firms. The problem associated with current ratio is that, it is a test of quantity and not quality of the assets and hence, it does not reveal the true position of a firm's liquidity. Current ratio just gives a rough idea of the firm's liquidity. Besides, it mixes assets and liabilities which are quite different in terms of their maturity.

Other ratios which have been developed to measure liquidity are the ratios of liquid assets to total assets; liquid assets to total deposits; loans and advances to deposits. Calculating the ratio of liquid assets to total assets explains the importance of a bank's liquid assets

among its total assets. It indicates the proportion of a banker's total assets that can be converted into cash at a short notice. The ratio of liquid assets to total assets normally gives information about the broad liquidity shock absorption capacity of banks.

2.5.2 Cash ratio

Cash ratio i.e. ratio of cash to total deposits or assets is another measure of bank liquidity. Its drawback is that a substantial part of the cash assets is not really available to meet most liquidity demands even though it measures liquidity stemming from cash which is the most liquid asset. Let us now look at more comprehensive measures than the above mentioned. Comprehensive empirical measures of liquidity creation were non-existent until 2009 when Berger and Bouwman pioneered the cause. Although Deep and Schaefer (2014) advocated the Liquidity Transformation Gap (LTG), Berger and Bouwman (2009) argued that this measure was not comprehensive enough. Deep and Schaefer (2014) define the Liquidity Transformation Gap as $(\text{liquid liabilities} - \text{liquid assets}) / \text{Total assets}$. Al-Khouri (2012) made use of the LTG method in his study.

Berger and Bouwman (2009), having argued that the LTG is not comprehensive enough, recognized and pioneered the importance of measuring liquidity comprehensively in academic literature and proposed a theoretically-motivated liquidity measure. They took a broader look at how liquidity should be measured, including off-balance sheet activities, and came up with four different liquidity creation measures. The 'cat fat', 'cat nonfat', 'mat fat', and the 'mat nonfat' measures. The 'fat' measures include off-balance sheet items while the 'nonfat' measures exclude off-balance sheet items. In three steps, they arrived at the ratio of Liquidity created to total assets as an indicator of illiquidity (liquidity risk) or liquidity creation. These terms are used interchangeably in this study.

They calculate liquidity creation following these three steps. In the first stage, all assets, liabilities, equity and OBS items are categorised into one of three groups, namely, liquid, semi-liquid and illiquid. This is done based on the relative ease, cost and time it takes a bank to honour its obligations in meeting liquidity needs and also, how easy, costly and timely it takes a client of the bank to withdraw liquid funds from the bank.

2.5.3 Liquidity Creation Theory

At stage two, the various classes of assets, liabilities and equity are weighted using the Liquidity Creation Theory, which postulates that, banks create liquidity when they finance illiquid assets with liquid liabilities. Thus, illiquid assets and liquid liabilities are weighted positive because they contribute to creating liquidity and because they contribute equally to create liquidity, the magnitude of their weights are $+\frac{1}{2}$ each. Liquidity is destroyed when liquid assets are financed with illiquid liabilities and so, these items are given negative weights and because they equally contribute to destroying liquidity, are weighted $-\frac{1}{2}$. At the final stage, each class of assets, liabilities equity and OBS items are summed up and multiplied by their respective weights and then, the weighted sums also summed across to obtain the total liquidity created for each bank. This can be aggregated for the entire banking industry. This measure has been, and continues to be widely used in literature after Berger and Bouwman (2009). Among the researchers that have used this measure are, Chen, Chou, Chang and Fang (2015), Lei and Song (2013), Choi, Park and Ho (2013).

This measure is considered to be an improved indicator for bank liquidity because of the following reasons; firstly, it quantifies liquidity creation, which is an important function of banks in the economy. Furthermore, it aids research on financial crises as too much

bank liquidity creation may form the basis of financial crises and too little bank liquidity creation may aggravate them. This liquidity creation measure is a good forecaster of financial crises even after controlling for other macroeconomic dynamics. Lastly, the BB-measure is a more complete measure of bank liquidity other than the traditional measures of total assets as it includes assets, liabilities, equity and off-balance sheet activities.

2.5.4 Liquidity Mismatch Index (LMI)

Brunnermeier, Gorton and Krishnamurthy (2011), also developed the Liquidity Mismatch Index (LMI), which is conceptually similar to Berger and Bouwman (2009) measure even though it measures the exact opposite: the LMI is a liquidity measure whereas the Berger and Bouwman (2009) measure captures illiquidity (creating liquidity for the public reduces liquidity of banks). An important feature of the LMI is that, it can be aggregated across banks to measure the liquidity mismatch of a whole financial sector. The Basel Committee on Banking Supervision (BCBS) in the “Basel III: International Framework for Liquidity Risk Measurement, Standards and Monitoring,” published in December 2010 (BCBS 2010), defined two minimum standards for funding liquidity: the Liquidity Coverage Ratio (LCR) and the Net Stable Funding ratio (NSFR). This news will have big impact on banks, because they are required to hold a level of capital and liquidity higher than in the past and will without doubt, also have an impact on the liquidity creation function performed by banks. (Horvath, Seidler and Weill, 2012).

The LCR aims to promote short-term resilience of banks' liquidity profile by ensuring that it has sufficient high-quality liquid assets (cash or cash-equivalent), specified by supervisors, to endure a significant stress scenario lasting for 30 days. The LCR is calculated as the stock of high-quality liquid assets/total net cash out-flows over the next

30 calendar days \geq 100 per cent. Put differently, to meet funding requirements and draws on contingent liabilities over the next 30 days, the LCR requires banks to hold a stock of unencumbered high-quality liquid assets equal to or greater than stressed net cash outflows. This requirement must be satisfied constantly and reported to supervisors at least, on a monthly basis, with not more than two weeks ultimate time lag. A drawback of the LCR of Basel III is that, it cannot be aggregated across banks. Besides, getting monthly data to calculate LCR will prove difficult especially in Ghana.

2.5.5 Net Stable Funding ratio

The Net Stable Funding ratio promotes resilience over a longer time period by matching long-term assets with stable funding sources over a one-year horizon (BIS, 2010). The NSFR is a longer-term structural ratio designed to address liquidity mismatches, covers the entire balance sheet and provides incentives for banks to use stable sources of funding. The NSFR is designed to encourage an increased reliance on medium and long-term funding, thus, increasing the average maturity of banks' liabilities. It is structured to ensure that long-term assets are funded with a minimum amount of stable long-term funding. It is measured as the ratio of the required amount of stable funding to the available amount of stable funding.

The required amount of stable funding corresponds to the amount of a particular asset that could not be monetised through the sale or the use as collateral in a secured borrowing on an extended basis during a liquidity event lasting one year. The available stable funding corresponds to the total amount of an institution's: (i) capital; (ii) liabilities with effective maturities of one year or more; and (iii) a portion of "stable" non-maturity deposits and / or term deposits with maturities of less than one year that would be

expected to stay with the institution for an extended period in an idiosyncratic stress event.

Bunda and Desquilbet (2008) and Angora and Roulet (2011) confirm the similarity of the liquidity creation indicator of Berger and Bouwman (2009) and the Net Stable Funding Ratio of Basel III, and show that, the two exhibit a strong linear and positive relationship. Angora and Roulet (2011) and Cucinelli (2013) employed these ratios in their various studies.

2.6 Types of risks faced by microfinance institutions

This section dealt with types of credit risk faced by microfinance institutions, operational risks, cash movement risks, interest rate volatility, liquidity risks, and foreign exchange risk.

2.6.1 Credit risk

Credit risk is defined as the potential that borrower or counter party will fail to meet its obligations in accordance with the terms and conditions of the contract. Since most loans advanced by MFIs are unsecured, these exposes to them to a great deal of credit risk. Within the literature, credit risk stands out as a key risk faced by microfinance institutions. This is probably due to the fact that lending has been, by far, the mainstay of microfinance business. This is particularly the case of transition or emerging economies such as those in Africa with the dual challenge of lack of credit facilities for small business firms on one hand, and the incident of bad loans and losses suffered by financial institutions on the other hand. Some scholars (e.g. Santomero, 2017) have argued that in

order to minimize loan losses and so as the credit risk, it is essential for financial institutions having an effective credit risk management (CRM) system in place.

Given the asymmetric information that exists between lenders and borrowers, financial institutions must have a mechanism to ensure that they not only evaluate default risk that is unknown to them *ex ante* in order to avoid adverse selection, but also that can evolve *ex post* in order to avoid moral hazards. However, a broader definition of credit risk also includes the risk of default by other financial institutions, which have payment obligations to MFIs (Bruet, 2014). This is mainly true with MFIs that continue as NGOs. Such payment obligations may come about as a result of MFIs using such institutions as depository institutions, investment outlets, or for money transfers.

Also, such risks can arise as a result of the agency cost arising from services that MFIs have provided to other financial institutions. MFIs therefore incur losses when these institutions are unable or unwilling to meet their payment obligations. However, this element of credit risk tends to be overlooked by MFIs as evident in some cases. Credit risks are more important today than in the early stages for those MFIs which have accumulated a significant amount of reserves, part of which in turn is kept in other financial institutions in the form of deposits or investments. Aside from generally recognized default risks by clients, another type of credit risk arises when MFI clients deposit their savings in other financial institutions which are weak and not covered by a credible deposit protection scheme. Clients may not have ready access to their funds and thus lose a source of loan repayment for their MFI loan if the bank where they keep their deposits runs into difficulties (Bruet 2014). In such cases, loan recovery rates may suddenly fall. The assets of most MFI portfolios consist of loans which are relatively

illiquid and carry the greatest credit risk. As argued by the theory of asymmetry information, it may be inconceivable to differentiate good borrowers from bad borrowers (Auronen 2013), which is likely to lead to adverse selection and moral hazards problems.

2.6.2 Operational Risk

Microfinance is an operations-intensive model and weak processes affect internal control and manifest as fraud or other operational failures. Detailed records of the processes and sub-processes can help MFIs identify risks, and the weak links that pose a greater threat of fraud. To detect fraud early and take action, MFIs should have a risk-scoring model, and allocate a score to each and every branch. Taking a holistic view, the model should be based on diverse parameters (Bruet, 2014). Branches with history of fraud should be penalized in the risk scoring model and the frequency of audit linked to the risk score (GTZ, 2014). This process will shed light on the two key questions: which branch has poor portfolio quality and which branch is witnessing fraud?

2.6.3 Cash movement risk

Since all MFI disbursements and collections are cash-based, they face high risk due to the continuous management of cash. This fact is exacerbated in institutions operating in remote locations. If movement of cash is not tracked and checked against demand and collections, it can result in fraud (GTZ, 2014). Such fraud can be mitigated if MFIs impose cash retention limits for branches, and require any deviations to be approved and recorded. Reconciliation cash through Management Information Systems in the branches' bank accounts is important in scrutinizing float and idle cash at every level within the institution.

2.6.4 Interest rate volatility

Interest rate volatility is one of the key risks MFIs face today. Interest rates changes on both lending and borrowing rates impact on profits especially in the short term. Increases in cost of funds affect margins adversely, thereby affecting profitability and operational self-sufficiency (GTZ, 2014). With increased competition and pressure to cut interest rates, and the inability of MFIs to pass on interest rate increases to their clients, and proposed regulations on capping margins, interest rate risk will continue to be one of the key threats for MFIs (Brudet, 2014).

2.6.5 Liquidity risk

Liquidity risk refers to a disparity of maturities of assets and liabilities. Liquidity risk is the possibility of negative effects on the interests of owners, customers and other stakeholders of a financial institution resulting from the inability to meet current cash obligations in a timely and cost-efficient manner. Liquidity risk usually arises from management's inability to adequately anticipate and plan for changes in funding sources and cash needs (GTZ, 2014).

2.6.6 Foreign exchange risk

Foreign exchange risk is the potential for loss of earnings or capital resulting from fluctuations in currency values. Microfinance institutions most often experience foreign exchange risk when they borrow or mobilize savings in one currency and lend in another (Brudet, 2014). In Ghana, the appreciation of the dollar actually caused many MFIs that were dependent on dollar denominated loans to begin mobilizing local savings in 1999 to reduce the currency mismatch of assets and liabilities (Asiama & Osei, 2007). Some

MFIs use interest rates swaps or futures contracts to “lock-in” desirable exchange rate, to protect them from uncertainty.

2.7 MFIs’ Risk Management and Risk Coping Strategies

Risks in microfinance must be managed in a systematic manner and the importance of risk management will further increase as the industry matures further and microfinance markets become more competitive (Powers, 2015). Risk management is considered the identification, assessment, and prioritization of risks followed by an organized and economical application of resources to reduce, monitor, and check the likelihood and effects of unfortunate events or to maximize the realization of opportunities. As stated by Heffernan (2016) various risk adjusted performance evaluations have been suggested.

2.7.1 Risk-return trade-off

These, however, focus on risk-return trade-off. Thus, in each activity, the underlying risks are evaluated and charge consequently for the capital expected to back it. The effective systems that check repayment of loans by borrowers is vital in tackling asymmetric information problems and minimizing the rate of loan losses of any financial institution (Basel, 2009).

2.7.2 Credit Risk Management (CRM)

An effective credit risk management (CRM) requires building an appropriate credit risk (CR) environment; working under a healthy credit lending process; maintaining an appropriate credit administration that necessitate the monitoring process and the adequate controls over credit risk (Greuning & Bratanovic, 2013). These calls for top management within MFIs to ensure that there are comprehensive and authorized guidelines in

managing credit risk. Thus, all guidelines should be properly conveyed within the MFI so that all parties involved in CRM understand them. For a sound CRM system in a financial institution, the basis should include the background and allotment of the credit facility and the manner in which a credit portfolio is managed. Screening out potential borrowers is an important activity that has greatly been advocated by, among others (Derban et al. 2015).

2.7.3 Risk Management Strategies

Risk management strategies attempt to address risk problems ex ante. Risk coping strategies address risk problems ex post (Siegel & Alwang, 2011). Risk is the possibility of an adverse event occurring and its potential for negative implications to the MFI. Risk management is the process of managing the probability or the severity of the adverse event to an acceptable range or within limits set by the MFI (GTZ, 2014). A comprehensive approach to risk management reduces the risk of loss, builds credibility in the marketplace, and creates new opportunities for growth. A risk management system is a means of identifying, assessing, and managing the various risks faced by MFIs. A risk management framework serves as a guide for the management of MFIs to design an integrated and comprehensive risk management system to help them focus and effectively manage their most important risk factors. A risk management framework is therefore a consciously designed system to protect the organization from undesirable shocks (downside risks), and allows the MFI to take advantage of opportunities (up-side risks).

The importance of incorporating risk management strategies in the operations of MFI is gaining considerable recognition (see for e.g. GTZ, 2014; Bruet, 2014). Regulators,

donors and the network of practitioners can all help promote these concepts of risk management, but the onus is on the board of directors and managers of the various MFIs to take the necessary steps to implement these risk reducing and risk management tools to ensure profitability and to mitigate losses.

2.8 Concepts of Credit Management in Banking

The activity of credit has become so imperative in today's banking environments and creates wealth provided it is well managed. If credit freezes, almost every activity in the banking operations, businesses and the economy as a whole are affected. The best way to utilize credit and get positive results is understand the credit practices and properly managing the risks involved. Small Business Development Corporation defined credit management as the process of controlling and collecting payments from customers (debtors). This means that a good credit administration and practice will help banks decrease the amount of funds held by debtors, and also minimize exposure of credit risk or bad debts. (www.smallbusiness.wa.gov.au)

The Institute of Credit Management established that credit management is comprehensive and it's a guide to improving organizational profits and cash flows through proper planning, motivation and control. Glen Bullivant (2012) underscored that the key issues of credit management control comprise guidance on credit policy, and management of credit functions, credit terms, credit risk management, debt collections and other relevant credit services. Asiedu-Mantse (2011) indicated that credit management basically begins by establishing standard policies and procedures that will ensure that qualified authorities grant credit, the credit goes to the right people, the credit is granted for the productive activities or for businesses which are economically and technically viable, the appropriate

size of credit is granted, the credit is recoverable and there is adequate flow of management information within the organization to monitor the credit activity.

Generally, credit management in rural banks covers the diverse field of credit related areas, from receiving applications, granting loan requests to managing the credit options of businesses and individuals to monitoring and collection of delinquent debts.

2.9 Credit Application

The first and foremost step a potential client can assess credit in rural banks is to tender a loan application request. A credit application is usually made in writing by the potential borrower or by filling the bank's own standard application form. This must contain relevant information such as applicant's name, account number, amount of request, and purpose of the request, duration, source of repayment and others which should be duly signed or thumb printed by the applicant.

2.9.1 Credit Appraisal Processes

All credit applications are received by the manager of a branch and then referred to the credit officer of the branch. The credit officer then begins the appraisal process by scrutinizing the applications as to whether the applicants have the capacity to borrow or not from the bank. According to Asiedu-Mante (2011), the credit appraisal reveals the relationship of the borrower with the bank, financial and economic viability of the intended project. The Credit Officer then writes his/her appraisal report with recommendations to the Credit Manager for his comments. When the loan request is within the manager's limit, he approves it. If it is beyond his limit, the request is

forwarded to other sanctioning authorities for approval and other higher amount of requests to the board of directors for approval at its meetings.

2.9.2 Credit Disbursement

Before a disbursement is initiated after approval, an offer and acceptance consent is written to the prospective borrower. The content of such letter contains areas as approved amount, the purpose of the credit, repayment period, interest rate and other charges, duration for credit repayment, security and post disbursement terms and conditions to the satisfaction of the customer. These approval letters are written by the Credit Manager at the credit department in line with Board's decision on the approved loan to be signed by two approving authorities. The letters are later released to the respective branch for the customer to read, understand and sign for his/her acceptance before disbursement is made by the branch credit officer.

2.10 Credit Monitoring and Collection Techniques

According to the Guidelines for Commercial Banks for Pakistan Banks, banks need to enunciate a system that enables them to monitor the quality of credit portfolio on day-to-day basis and take remedial measures as and when any deterioration occurs. Such a system would enable a bank to ascertain whether loans are being serviced as per facility terms, the adequacy of provisions, the overall risk profile is within limits established by management and compliance of regulatory limits. Asiedu-Mantse (2011) reveals that establishing an efficient and effective credit collection system would help senior management to monitor the overall quality of the total credit portfolio and its trends. Consequently, the management could fine tune or reassess its credit strategy /policy

accordingly before encountering any major setback. The author stressed that banks credit policy should explicitly provide procedural guideline relating to credit risk monitoring. At the minimum, it should lay down procedure relating to: the roles and responsibilities of individuals officers responsible for credit risk monitoring, assessment of procedures and techniques analysis for individual loans & overall portfolio, frequency of monitoring, the periodic examination of collaterals and loan covenants, the frequency of site visits to loan customers and the identification of any deterioration in loans, if any.

Asamani-Darko (personal communication) revealed that the monitoring of credit lies with the credit officers at the various branches. In addition, recovery officers are given additional responsibility to ensure that loans are well monitored and those are in default category. The information gathered on the monitoring process is further transferred to the credit manger of the branch. The credit manager reviews and evaluates the monthly portfolio reports and identifies non-performing loans and past dues for immediate attention.

2.10.1 Credits in Rural Banks

Ciby, (2013) stressed that credit is seen as an exchange of transactions between two parties whereby one party (lender) grants funds in exchange for a promise for future payment by the other party (borrower). In his view, such transactions normally include the payment of interest together with principal to the lender. Asiedu – Mante (2011) also asserted that credit is an arrangement whereby an institution or an individual is required to undertake an obligation or to commit funds directly or indirectly to another party and the party to whom or whose behalf the funds have been given or the obligation has been undertaken is required to repay in accordance with agreed terms of arrangement with

interest. The author underscored that credit facilities offered by the rural banks can be put under two broad headings, i.e. Loans and Overdrafts.

2.10.2 Overdrafts

Overdraft is one of the means through which banks lend money to their respective customers. This occurs when a customer is allowed to withdraw in excess of funds from his or her account upon agreement with the Bank for a specific period of time. This type of credit is granted to commercial customers of the bank and it is granted on medium-term basis when the necessary arrangements between the authorities of the bank and the customer have been agreed upon. Interest could be charged on the facility by using the product approach or final debit balance standing in the account. The bank allows customers to provide security and this applies only to commercial applicants. An overdrawn account is subject to an interest charge depending on interest rate of the bank at a particular time.

The short-term overdraft which comes in the form of salary advance is another type of overdraft which is solely given to salary customers. Overdraft is given to only current account holders who qualify by satisfying all the necessary credit conditions (Adansi Rural Bank Credit Policy Manual, 2014).

2.10.3 Loans

Asamani-Darko (Personal Communication) stressed that a bank loan is created when an agreed sum of amount has been credited to the applicant's account and debited to his loan account. This is done when an application for the loan has been appraised and approved by a higher authority when the necessary documents have been satisfied and the customer

agreeing to the necessary credit conditions of the bank. Interest is paid on the amount granted and mostly repayment is on monthly basis. Repayment could be made semi-annually or the total amount and interest are paid at the end of the expiry period depending on the policy of the bank. Asiedu – Mantse (2011) indicated that loans offered by Rural Banks can be sub-divided into; Salary/Pension Loans, Susu Loans, Commercial Loans, School Fees Loans, Funeral Loans, Micro-Finance Loans, etc

2.11 Credit Risks Associated with Rural Banks

Credit is good if used and a prudentially by both parties. Nevertheless, several situations account for both lenders and borrowers suffering because of credit. These could be amounted to poor credit risk analysis and management of such risks. Sylvian et al (2013) defined credit risk as the probability of lender losing money due to the inability, unwillingness or non-timeliness of a counterparty to fulfill his financial obligations. The authors underscored that whenever there is a chance that the counterparty will not pay an amount of money owed, or fails to honor his financial commitment, there is credit risk. Ciby Joseph (2013) indicated that credit risk arise on the probability that the borrower (corporate or individual) may default on obligations. The author expressed that a borrower is responsible in the debt service obligations and should be aware of the consequences of the borrowing.

Casu et al. (2016) also defines credit risk as the risk of reduction in the credit position of counter party. The authors again spotted that credit risk is accompanied with traditional lending activities of banks and this can simply be deduced as loss of non-repayment either partly or wholly. They also stressed that loans and advances are the obvious sources of credit risk. The authors stressed that to reduce credit exposure; banks can limit

the amount available to a certain class of borrowers. McNaughton (2009) explained that banks probably inherent Credit Risk immediately they act as intermediaries, and credit risk management lies at the heart of commercial banking. The author said; ‘the business of banking is credit and credit is primarily the basis of which banks’ quality and performance are judged’. She underscored that the ultimate harm in extending credits is that there is probability that the borrower may refuse to repay the loan when they fall due. She further stressed that credit risk has a negative effect on liquidity, and can bring about severe financial crisis, resulting in loss of capital, insolvency and liquidation of banks.

Marques (2010) also defines credit risk as the risk of probable default that may occur as a result of the inability of a business partner of a bank, known as counter party to reimburse a loan when it is due. For instance, if a bank is expected a counter party to reimburse GHC20,000.00 amount of loan on a specified date, and the counter party fails to provide funds, the bank automatically incurs a risk of credit loss. He further stated that an effective credit risk practice or management helps put in place a bank’s comprehensive and functional credit risk identification and reporting controls. In effect, this means that if payment is delayed or not made at all as stipulated it can adversely affect bank’s profitability and also create liquidity problems. High credit risks continues to pertain in rural banks and amongst some contributing factors are further discussed below;

2.11.1 Cost of Borrowing

The Central Bank in early 1990’s was the sole regulator of interest rates and, further fixed interest rate for banks which was to be complied by all banks. This system was later refuted prior to the pre-liberalization period and opened a door for the banks to determine their interest rates based on market forces and other macroeconomic conditions. Stiglits

(2017) is of the view that interest rates on loans or credit facilities should be higher, if the probability of default is higher. The higher the risk of probable loss the higher the interest rate would attract. Businesses or banks whose operations increases risk of loan repayment therefore attract higher interest rates. This situation may be beneficial to the bank in the initial stage, however, in most cases tends to increase or intensify default rate, since charging higher rates increases cost of operations and eventually affect business sustainability.

2.11.2 Credit Worthiness of Borrowers

Rose (2009) indicated that the assessment tools of credit worthiness, which credit analysts respond to pre-lending safeguards, are – character, capacity, cash, collateral, conditions and controls. Ritter et al (2010) indicated that credit risk arises because some potential borrowers may not be able to pay back their loans due to the fact that they are unable to assess the risk of the borrower and where their performance is also difficult to monitor. Such loans are characterized by the nature of information asymmetry problems of adverse selection and moral hazards.

Aryeetey (2016) also expressed his opinion on measures to be taken before lending and stressed the importance for credit officers to ascertain time demand and false demand for credits. Whereas the former are applications for loans supported by bankable projects, the latter is without. The view of his report therefore calls for a proper and thorough appraisal of credit applications before credit decisions are taken. The comprehensive evaluation of credit worthiness compasses among others as gathering, processing and analyzing of information on potential applicants, and subjecting it to Credit Reference Bureau Scrutiny to ensure that clients fall within recommended credit ratings. For the past years, Rural

Banks have not been able to access such data to enable them make quality credit decisions.

In April 2007, the government of Ghana, through the central bank had initiated a credit ratings and reference system to facilitate the credit worthiness of all existing and potential loan customers which is to be complied by all commercial and rural banks. However, Rural Banks have not fully complied with these directives and further have not been able to make credit references to thoroughly assessed credit worthiness of potential clients before loan approval (Bank of Ghana, 2007).

2.11.3 Poor Lending Behaviour

Rouse (2009) defines lending to be an art because it has an element of imagination and creativity. An effective credit practice enumerates the processes to be followed and this is imperative for good credit risk practices. The author stated that the lending activities encompass various disciplines of finance, economics, accounting, geography, law, science, psychology and culture among others. A sound credit decision relies on the knowledge, skills and foresight of the Credit Manager and other Officers in their various branches.

McNaughton (2009) stressed that credits activities is one of the major of drivers of financial intermediation as such plays a significant role banking operations, whilst remaining highly risky at the same time. This situation makes lending activities very challenging to most rural banks in the country since a slight negligence can cause financial loss. Therefore, a person with the right attitude, skills and knowledge are to be charged to manage lending activities.

2.11.4 Insufficient Security

Security for credits is known to ensure that funds are recovered from the borrower at the time of his inability to fully meet his commitments or obligations of repayment. According to Dunkman (2016), the reason for security is to serve as a safeguard against some doubts about borrower's prepayment ability. The author reiterated that security serves as means for increasing loan request above existing facilities, and a secondary step to recover loans in event of default by the borrower. Agyeman (2017) was on his view that although collateral security serves as an important tool in credit decisions, banks should be cautious in setting security requirements as this can have an adverse effect on credit administration. It becomes a risk if bankable projects are solely financed on the availability of collateral security.

The absence of reliable security in the rural communities was a major reasonable factor for the commercial banks not to extend credits to peasant farmers and small – scale businesses in such areas. The establishment of rural banks became essential for the fact that they do not rely on the rigidity of existence of security in extending credits to these farmers. The situation has created a serious turmoil for huge credit losses since most customers by virtue of their relationship with most stakeholders assess loans with insufficient security. It should be appreciated that the provision of adequate and perfected collateral security is essential in credit decision because it remains a secondary source of repayment of the loan in the event of default.

2.11.5 Poor Loan Monitoring

Huppi and Feder (2010) stressed that loan monitoring plays a significant role in ensuring the success of the project and, hence boost loan repayments on time. The authors

emphasized that regular monitoring of loans lead to higher recovery rates by giving early possible dangers of delinquencies and diversion of loan funds by the borrower. The authors stressed that monitoring of credits should be seen as a catalyst to ensuring repayments at early signs of delinquencies either on interest or principal. Regular monitoring the borrower of the obligations of loan repayment as scheduled to the lending bank. However, most Rural Banks have not been able to take advantage to reduce the high rate of their loan defaulters.

Casu et al. (2016) indicated that banks must thoroughly assess the state of borrowers' ability to honor repayment of loans before, during and after the facilities had been granted. Asamani-Darko, (Personal Communication) revealed that monitoring is a vital step towards recovery because it gives firsthand information on situations that may eventually lead to arrears and subsequent default. One of the major causes of loan default in most Rural Banks is poor monitoring and control. Monitoring and control of all loans and the entire portfolio management is the responsibility of the Head of Credits and the credit teams at each branch of the bank.

For poor performing loans, credit officers may need to pay regular visits to customers to ascertain reasons for late payment, poor payment and non-payment. Nevertheless, good loans should also be monitored regularly to avoid degeneration of delinquent and hardcore loans. He advised that, monitoring could be done by visiting or calling of client by the Officer and through the liaising agents of the bank and the customer.

2.11.6 Weak Regulatory Control

Rural Banks are the expected in the course of operations protect their depositors' money which is the life blood to them. The essence of quality loans portfolio of banks provide

security for deposits. The regulatory controls in credit management in most rural banks in Ghana have been highly weak leading to income leakages, loan defaults and affecting performances. Section 29 of the Banking Act, 2004 (ACT 673) mandates the Bank of Ghana to direct and regulate the maintenance of liquid assets by a bank as a certain percentage of its total liabilities.

The assets to liabilities should not be more than 50% in Rural Banks. (Adansi Rural Bank Credit Manual). Credit risk continues to be a major problem in most of the rural banks in Ghana. The board, management and other supervising authorities must appreciate the compliance of those provisions. These provisions in The Banking Act, 2004 (ACT 673) outlines the need to adopt and comply by all banks to help establish good credit management practices in order to minimize default rates and maintain good loan portfolio to maximize shareholders returns.

2.12 Effective Credit Management Practices

The most effective form of portfolio management is at the point of origination of the credit (ARB - Apex Bank Manual, 2014). This part of the work stresses on key principles of effective credit risk management practices.

2.12.1 The Basle Committee on Banking Supervision Model

According to the Basle Committee on Banking Supervision as cited by Casu et al (2006), the common aim of managing credit management is to increase a bank's risk-adjusted rate of return by maintaining the credit risk exposure within acceptable parameters. The Basle Committee on Banking Supervision Report (2010) had outlined the following measures in order for banks, especially rural banks to address their credit risk exposures:

2.12.2 Establishment of Standardized Credit Environment

The Board of Directors should have the oversight role of sanctioning and continuously reviewing their credit risk policies for their respective banks. Senior Management should have responsibility for implementing the credit risk policies and strategies as approved by the Board. They should therefore make policies and structures to help identify and keep watch of their credit risk measures. Banks should identify and manage credit risk associated with all loan products and activities.

2.12.3 Operating Under Sound Process of Granting Credits

Banks should operate within well-defined criteria in granting credits to customers. The requirement should clearly indicate the target customers and a full analysis of the borrower, as well as purpose and structure of the credit, and its source of repayment. □
Banks should establish an overall credit limits at all levels of individual borrowers and counter-parties.

2.12.4 Measurement and Monitoring in Credit Procedures

Banks should develop a system for the ongoing administration of their respective credit risk bearing portfolios. Banks should have a mechanism for monitoring conditions of adequate credits, by determining the adequacy of provisions and reserves. Banks should make it a habit of using the rating system in managing their credit risk. The rating system should be consistent in nature, size and complexity of a bank's credit activities. Banks should have a system in place for monitoring the overall composition and quality of their respective credit portfolios.

2.12.5 Supervisor's Role

Credit supervisors should ensure that effective credit system has been put in place in identification, measuring, monitoring and controlling credit risk as part of total approach to credit risk management. Supervisors should conduct an independent evaluation of the bank's credit policies, strategies and practices related to credit granting and management of portfolios. The role of supervisors to ensuring a good credit management practices is enforceable in Section IV, The Banking Act, 2004 (ACT 673).

2.12.6 Collateral/Security Requirements

Misklin (2016) stated that security which is a property promises the lending bank as compensation if the borrower default, it serves as secondary source of repayment and therefore, reduces the lender's losses in the event of default. McNaughton (2009) claims that collateral reduces bank's risk, reduces costs in terms of documentation and monitoring. She further stressed that the value of collateral should remain stable during the currency of the loan. According to Asiedu-Mante (2011), stated that the issue of security was crucial in the establishment of rural banks since the commercial banks were stressing on taking building and land as securities which were beyond the reach of rural dwellers. He further stated that the set-up of rural banks were to address the credit needs of rural dweller, and all obstacles that prevented financial intermediation in rural areas, which security was one of those obstacles. The author claimed that security against a loan is only a fallback position to a lender. He stated that today, most banks will rather lend on the strength of the balance sheet of a business or on the viability of a project. The author outlines the following as some of the items accepted by rural banks as security for loans;

Cash/Credit balances on accounts, Government debt instruments such as Treasury Bills and Notes, Bonds and Stocks, Life Insurances Policies, Fixed Deposits, Pledges, Security assignment, Fixed/Floating Charges, and Mortgage on immovable Property

The general requirements of a good security is that, it should be easily realizable, easy to value, stable over an appreciable length of time, and that the title should be easily transferable. These have become an effective tool for decreasing borrower's risk of default.

2.12.8 Credit Rationing

Misklin (2016) simply define credit rationing as the intention of a bank to make credits unavailable, even though borrowers are willing to pay the stated interest rate or even a higher rate. The author stressed that the lender deliberately refuses to make loan of any amount to a borrower, even if the borrower may have the capacity and willingness to pay a higher interest rate or when a lender is willing to make a loan available but restricts the size of the loan to less than the borrower would desire. According to the author, credit rationing is essential because the larger the loan, the greater the moral hazard associated to it. Casu et al (2016) stated that credit rationing is an attempt to minimize the problem of adverse selection in the loan market. The authors stressed that bank can limit the amount available to a particular or class of borrowers in order to reduce credit risk exposures.

2.12.9 Credit Policy

A Credit policy is a document which guides the senior management and the Board in their lending activities. The policy calls for standards and prescribed culture in credits

which are to be observed and comply. It is also a statement of the Bank's basic credit philosophy. Credit Policy is also viewed to provide a framework for achieving asset quality in a manner which is consistent with the strategic objectives of the bank.

Credit policies vary from one financial institution to the other. However, they all seek to achieve effective credit administration or management. Asamani-Darko (Personal Communication) underscored that one of the objectives of a bank's credit policy is to improve access to financial services through timely and efficient credit delivery to a larger and wider client population with a total portfolio health of not less than 95%.

2.13 Measures of Banks Performance

Kumbirai and Webb (2010) stated that one of the several approaches used to measure banks performance is the accounting (financial ratios). These financial ratios have over the years been employed by financial institutions for assessing their performance. Artrill and McLaney (2011) expressed that financial ratios provide a quick and relatively simple means of assessing financial strength of a bank. The authors further stated that through the applications of financial ratios, banks are able to examine various aspects of their financial position and performance.

As far as this study is concerned, some of the various financial ratios adopted to examine the performance of rural banks specifically, Return on Equity (ROE); Return on Assets (ROA); Loans to Deposit Ratio (LDR); Capital Adequacy Ratio (CAR); and Non-Performing Loan Ratio.

- Return on Equity (ROE)

Watson and Head (2008) underscored that return on equity measures how much institutions are performing after each Ghana Cedi invested in the shareholders' equity of

the company. Islam and Salim (2011) also revealed that ROE measures banks' efficiency at generating profits from every cedi or pesewa of shareholders' equity.

- Return on Assets (ROA)

The Return on Assets (ROA) is an indicator that measures how much a bank is earning after each cedi or pesewa invested in the assets of the institution. According to Van Horne (2005), return on assets indicates the profitability on banks assets after all expenses and taxes. Pinprayong and Siengthai (2012) indicated that the Return on Assets (ROA) is a suitable measure of overall company or banks performance, since it reveals how profitable organizations assets are generating revenues for the bank.

- Loans to Deposits Ratio (LDR)

One important ratio used to measure the liquid condition of a bank is the Loans to Deposits Ratio. Moin (2013) indicated that banks with high LDR seem to have excessive liquidity, but with potential danger of reducing profits and in effect, less risk as compared to banks with high LDR. However, banks with high LDR are usually noted in engaging in financial stress as a result of granting excessive loans and have high risk of meeting depositors' claims.

- Capital Adequacy Ratio (CAR)

Capital Adequacy Ratio (CAR) measures a bank's strength from a regulator's perspective. According to Asiedu-Mantse (2011) rural banks with strong capital adequacy ratio usually have good profitability and are able to absorb their possible bad loans and also escape the danger of bankruptcy, insolvent and collapse. The author further indicated that rural banks in the country are set with a minimum of 10% CAR and any ratio below this benchmark is unsatisfactory which needs immediate attention.

- Non-performing Loans Ratio

Non-performing loans ratio (NPLR) are used to measure the fitness of credit risk management of a bank. Hosna et al (2009) indicated that non-performing loans ratio indicates how banks manage their credit risks because it defines the proportion of loan losses amount in relation to the total loan portfolio. Nair and Fissaha (2010) indicated that Non-performing Loans (NPL) fairly affect profitability of banks and this is as a result of shifting cost of loan default to other customers and this poses a threat to the industry. Asamani - Darko (personal communication) revealed that non-performing loans are either in default or past due brackets, and include any unpaid loan amounts for at least 90 days. Ideally, non-performing loans are expected to have an inverse relationship with rural banks performance.

2.14 Effect of Credit Management on Banking Performance

Credit risk management in rural banking has raised many concerns not because of the financial crisis it can pose but also determines the bank's profitability and growth. This section reviews the effect credit management can pose to banks' performance in the area of profitability, being the key factor in banking performance; and liquidity.

2.14.1 Profitability

Primarily, organizations operate to make profits and shareholders expect to be paid dividends at the end of every year. Therefore, profitability measures are required to inform management, potential investors, shareholders, general public and other stakeholders about how the institution is performing. Artrill and McLaney (2011) defined profitability as the ability in the case of a bank to generate more revenues than its

expenses, and that banks generally exist with the primary purpose of creating wealth for their owners. Rouse (2009) indicated that the core implication on granting credits is the probability that the borrower will not repay the facility that will lead to low interest income of a bank. The author stressed that high credit risk affects the profitability of banks, thereby eroding the shareholders' wealth.

Cooper et al. (2013) stated that the variations in banks profitability are mostly as a result of variations in credit risk, since increased exposure to credit risk usually associated with decreased profitability of a bank. Credits granted by the banking and non-banking institutions are expected to be the major source of generating income and are expected to have positive impact on profitability. All other things being equal, effective credit management and the higher the amount of credits granted, the higher would be the profitability level for the banks.

Naceur and Goaid (2009) claimed that credits granted by banking institutions have a significant positive relationship with profitability. Achou and Tenguh (2007) on a research conducted on bank performance and credit risk management found that there is a significant relationship between financial institutions performance (in terms of profitability) and credit risk management (in terms of loan performance). Better credit management results in better performance. Thus, it is of crucial importance that financial institutions practice prudent credit management techniques and safeguarding the assets of the institutions and protect the investor's interests. Nduta (2013) established that credit management practices have a strong relationship with financial performance in terms of profitability. She underscored that credit appraisal, credit risk control and collection

policy to a great extent enhance the financial performance of Micro-Finance Institutions in Kenya. This is also true for rural banking institutions in Ghana

2.14.2 Liquidity

Liquidity is the ability to meet financial obligations as they fall due. Asiedu-Mantse (2011) indicated that very low deposits and high default rates have plunged some rural banks into serious liquidation problems, leading to the erosion of the general public confidence in rural banks in Ghana. He further stressed that improper lending culture and ineffective monitoring and recovery of credit facilities to customers have contributed to high credit risk and pose liquidity risk in most rural banks. In the year 1999 for example, the Bank of Ghana withdrew the banking licenses of 23 rural banks which were in distressed in the year 1999 due to unacceptable credit behavior and practices which eventually had serious bearing on their liquidity. McNaughton (2009) stated that credit risk has a negative effect on liquidity risk, and if it fails to receive the necessary attention can extremely lead to serious financial crisis of a bank, resulting in the loss of capital, insolvency and the collapse of a bank.

Generally, it is noted that the high risk of loan portfolios in most rural banks was a result of poor credit management practices, and this requires collaborative interventions to find ways of ensuring improvement. The adaption of effective credit management techniques has become a significant tool in enhancing profitability, enhancing liquidity, and maximizing shareholders wealth as well as deepening financial intermediation whilst bringing risk on return to its minimum to stimulate economic growth and development in rural areas. Since profitability is the major driver of organizational performance as measured by return on equity (ROE) would be used as a dependent variable for the

purpose of the study and credit appraisal, credit disbursement and credit collection techniques as independent variables for credit management practices.



CHAPTER THREE

METHODOLOGY OF THE STUDY

3.1. Introduction

This chapter is concerned with procedures through which the data relevant to the research problem was collected. It includes the description of research design, target population, sample and sampling procedures. Furthermore, instruments for data collection and data analysis procedures were presented.

3.2. Research Design

Research design is referred to as an arrangement of condition for collection of data and analysis for the aims of combining research purpose with the economic procedure (Fraenkel & Wallen, 2009). The researcher used descriptive research approach. The researcher wanted to assess the role of credit risk management in the liquidity position of microfinance companies in Ghana. Creswell and Plano Clark (2007) also defined the descriptive survey method as one which looks with intense accuracy at the phenomena of the moment and then describes precisely what the researcher sees. Descriptive research design is concerned with describing characteristics of a problem. Descriptive design helps portray an accurate profile of persons, events and situations.

The purpose of employing the descriptive method is to describe the nature of a condition, as it takes place during the time of the study, and to explore the cause or causes of a particular condition. The researcher used this kind of research considering the desire to acquire first hand data from the respondents to formulate rational and sound conclusions and recommendations for the study. Case study research is good in facilitating understanding of a complex issue or object and can extend experience or add strength to

what is already known through previous research. Case studies emphasize detailed contextual analysis of a limited number of events or conditions and their relationships. Bernard (2005) defined the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.

3.3. Population of the Study

Population refers to the entire group of people, event or things of interest that the researcher wished to investigate, it forms a base from which the sample or subjects of the study will be drawn (Welman, Kruger & Mitchell, 2010). A study population therefore refers to the entire group of people to whom researchers wish to generalize the findings of a study, including persons who did not participate in the study (Creswell, 2009). The target population of the study was made up of employees of selected MFIs in the Kumasi Metropolis that comprised of 156 employees.

3.4. Sample and Sampling Technique

Census sampling techniques was used to select all the 156 respondents for the study. This involves collecting data from all individuals in the target population due to the small nature of the population. It is called a census sample because data is gathered on every member of the population. To Bryman (2004), the key advantage to using a census is that it provides a true measure of the population (no sampling error). The study was quantitative research approach because it is convenience for social research.

3.5. Data Collection Instrument

Creswell and Plano Clark (2010) indicated that several methods were used to collect data in a social science research. In this research, data was collected using questionnaires. The researcher used a set of self-administered questionnaires directed toward the employees. The questionnaire was made up 5-point likert scale (1= Strongly Disagree, 2 = Disagree, 3 = Neutral 4= Agree, and 5 = Strongly Agree). The questionnaire consisted four sections. Section A collected data on the employees demographic data. Section B evaluated the effectiveness of credit management practices used by the selected MFIs in the Kumasi Metropolis. Section C identified the credit risks faced by microfinance institutions and section D identified strategies that are instituted to monitor and control credit risk in these MFI institutions.

3.6 Validity and Reliability

For a given problem, validity is one of the concepts used to determine how good an answer is provided by research. It means in essence that a theory, model, concept, or category describes reality with a good fit: a valid measure is one which measures what it is intended to measure. In fact, it is not the measure that is valid or invalid but the use to which the measure is put. The validity of a measure then depends on how we have defined the concept it is designed to measure (De Vaus, as cited by Amaratunga et al., 2002). In conducting research the estimation of reliability and validity is a task frequently encountered. Measurement issues differ in the research works in that they are related to the quantification of abstract, intangible and unobservable constructs. In many instances, then, the meaning of quantities is only inferred. If a concept is involved in the testing of hypothesis to support the theory it has to be measured. So the first decision that the

research is faced with is “how a concept is measured?”. Self-report measures include questionnaires that can be open-ended or close-ended, Likert-type scales, interviews that are structured, semi-structured or unstructured and open-ended or close-ended. Needless to say, each type of measure has specific types of issues that need to be addressed to make the measurement meaningful, accurate, and efficient. After conducting a pilot test, the reliability of the questionnaire was calculated using Cronbach’s alpha correlation coefficient. The internal consistency of the instrument was calculated to be .87 indicating that it was highly reliable.

3.7. Pilot Testing

A pilot test were conducted to determine the clarity and readability of the questionnaire, and to test the internal reliability of the measures. A pilot test was conducted at the selected MFIs. Fifteen respondents were selected to participate in this pre-test. Pilot testing of the questionnaire helped the researcher to unearth the content validity and reliability of the questions in measuring what it was intended. The questionnaire was amended accordingly for use in the field. The refining of the items in the questionnaire is to make the items very simple for the respondents to understand so that they could provide the appropriate response to the items. The pilot-test also gave a fair idea of the responses to be obtained from the field. The responses were fed into the SPSS version 20.0 to determine the reliability of the instrument.

3.8. Data Collection Procedure

Structured questionnaires containing close ended questions were administered to respondents. This was undertaken during working days between 10am to 2:00pm. The

researcher visited the MFIs and interacted with the authorities. After obtaining permission from the authorities, the researcher personally administered the questionnaires to the employees and also collected the questionnaire later.

3.9. Data Analysis Procedure

After sorting out the questionnaires, the data was computed and analyzed using the Statistical Package of Social Sciences (SPSS) version 16.0. The statistical analysis such as frequencies, percentages and mean were used to analyze the questionnaire. The questionnaire of five – point likert format where strongly disagree = 1, disagree = 2, not sure = 3, agree = 4 and strongly agree = 5. With regard to the analysis of the qualitative data, after every field visit, the researcher would summarize the interview into themes. The researcher first transcribed and read through to get acquainted with it. Further, the researcher transcribed the interviews and collate with the information from the field notebook and analyse using thematic analysis.

3.10. Ethical Considerations

Ethics as a set of moral principles suggested by an individual or group, and which is widely accepted, offers rules and behavioural expectations about the correct conduct towards respondents (Bryman, 2004). Ethical considerations are very important when research is conducted. Brynard and Hanekom (2006) state that ethical issues are especially predominant with qualitative research because of the closer relationships between the researcher and the researched. Leedy and Ormrod (2005) identify three main areas of ethical issues, namely informed consent confidentiality and the consequences of the interview.

1. In this study, the researcher adhered to the following ethical measures in the process of data collection, analysis and dissemination:
2. The participants chose to participate in the study voluntarily.
3. The participants chose the interview time and date to their convenience.
4. The researcher remained open and honest to the participants during the entire investigation to ensure that all information important to them was reflected.
5. To guarantee the confidentiality, anonymity, non-identifiability and non-traceability of the participants, the researcher used codes instead of names.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.0 Introduction

The purpose of the study was to assess the role of credit risk management in the liquidity position of microfinance companies in Ghana: case study of selected MFIs in the Kumasi Metropolis. The specific objectives include; a) evaluating the effectiveness of credit management practices used by the selected MFIs in the Kumasi Metropolis, b) identifying the credit risks faced by microfinance institutions and c) identifying strategies that are instituted to monitor and control credit risk in these MFI institutions.

The researcher administered 156 questionnaires to the respondents, out of the which 114 questionnaires were properly answered and returned/received, while 42 questionnaires were not received. Therefore, the analyses of the study was based on 73% response rate.

Table 4.1: Demographic information of the respondents

Gender	Frequency	Percent (%)
Male	75	65.8
Female	39	34.2
Total	114	100
Age category		
Less than 30 years	31	27.2
31- 40 years	26	22.8
41- 50 years	30	26.3
Above 51 years	27	23.7
Total	114	100
Educational qualification		
Diploma	48	42.1
Bachelor's degree	57	50
Masters degree	9	7.9
Total	114	100

Source: Field survey, 2019, N= 114

Table 4.1 shows that the majority (65.8%) were males while 39 respondents representing 34.2% were females. Moreover, 31 respondents representing 27.2% were less than 30 years old, 30 respondents representing 26.3% were between the age category 42-50 years, 27 respondents representing 23.7% were above 51 years, while 26 respondents representing 22.8% were between the age categories 32-40 years. Furthermore, 57 respondents representing 50% were holding Bachelor's degrees as their highest academic qualification, 48 respondents representing 42.1% were Diploma in Education holders, while 9 respondents representing 7.9% were holding Masters degrees as their highest academic qualifications.

Table 4.2 Categories of loan customers

Categories of loan customers	Frequency	Percent (%)
Agricultural	18	15.8
Mining	12	10.5
Trading	33	28.9
Smale scale entrepreneur	35	30.7
Contractors	6	5.3
Salaried workers	5	4.4
Manufacturing	5	4.4
Total	114	100

Source: Field survey, 2019, N= 114

Table 4.2 reveals that 35 customers representing 30.7% were smale scale entrepreneurs, 33 customers representing 28.9% were traders, 18 customers representing 15.8% were into agricultural productions, 12 customers representing 10.5% were into mining

activities, 6 customers representing 5.3% were building contractors, while 5 customers representing 4.4% were into manufacturing activities and salaried workers respectively.

4.2 Presentation of Research Objectives

This section contains tables that analysed and discussed the study objectives including evaluating the effectiveness of credit management practices used by the selected MFIs in the Kumasi Metropolis, identifying the credit risks faced by microfinance institutions and assessing strategies that are instituted to monitor and control credit risk in these MFI institutions.

4.2.1 The credit management practices used by the selected MFIs in the Kumasi Metropolis

The first objective of the study was to evaluate the effectiveness of credit management practices used by the selected MFIs in the Kumasi Metropolis. Table 4.3, 4.4. and 4.5 evaluated the effectiveness of credit management practices used by the selected MFIs in the Kumasi Metropolis.

Table 4.3 Credit risk reducing tools and evaluate their importance to your MFI

S/N	ITEM	1	2	3	4	Mean X	Rank
1	Staff training	112	2	0	0	3.21	1 st
2	Client project evaluation	112	2	0	0	3.21	1 st
3	Internal controls	108	6	0	0	2.45	2 nd
4	Customer affordability calculation	102	10	2	0	2.23	3 rd
5	Credit granting policy	98	9	7	0	2.21	4 th
6	Debt collection techniques	88	22	4	0	2.20	5 th
7	Credit scoring models	79	30	5	0	1.89	6 th
	Average Total	699	81	18	0		
	Average Percent (%)	87.5	10.2	2.3	0		

Source: Field survey, 2019, N= 114

The study findings revealed that an average of 87.5% of the respondents agreed that the effective credit risk reducing tools that were used by the MFI were staff training (mean score, 3.21, ranked 1st), client project evaluation (mean score - 3.21, ranked 1st), internal controls (mean score - 2.45, ranked 2nd), customer affordability calculation (mean score - 2.23, ranked 3rd), credit granting policy (mean score - 2.21, ranked 4th), debt collection techniques (mean score - 2.20, ranked 5th) and credit scoring models (mean score - 1.89, ranked 6th). This indicates that credit policy of the MFI can positively influence default rate. These results are in agreement with Asamani-Darko (Personal Communication) A Credit policy is a document which guides the senior management and the Board in their lending activities. The policy calls for standards and prescribed culture in credits which are to be observed and comply. It is also a statement of the Bank's basic credit philosophy. Credit Policy is also viewed to provide a framework for achieving asset

quality in a manner which is consistent with the strategic objectives of the bank. Credit policies vary from one financial institution to the other. However, they all seek to achieve effective credit administration or management. Asamani-Darko (Personal Communication) underscored that one of the objectives of a bank's credit policy is to improve access to financial services through timely and efficient credit delivery to a larger and wider client population with a total portfolio health of not less than 95%.

Table 4.4: Factors considered before granting loans

Factors	Very high(4)	High(3)	Moderate(2)	Low(1)	Mean X	Rank
Ability to pay	113	1	0	0	3.45	1 st
Future prospects of the business	112	2	0	0	3.42	2 nd
Profitability	110	2	2	0	3.41	3 rd
Cash flow statement	109	3	2	0	2.85	4 th
Profit and Loss statement	105	5	4	0	2.76	5 th
Security	104	6	4	0	2.75	6 th
Character	103	4	7	0	2.72	7 th
Borrower repayment history	103	8	3	0	2.71	8 th
Experience of credit utilization	101	7	6	0	2.63	9 th
Average Total	960	38	28	0		
Average Percent (%)	93.6	3.7	2.7	0		

Source: Field survey, 2019, N= 114

The study findings revealed that an average of 93.6% of the respondents agreed that the factors MFI consider before granting loans to clients were ability to pay (mean score - 3.45, ranked 1st), future prospects of the business (mean score - 3.42, ranked 2nd),

profitability (mean score- 3.41, ranked 3rd), cash flow statement (mean score - 4th), profit and loss statement (mean score - 5th), security (mean score - 2.75, ranked 6th), character (mean score - 2.72, ranked 7th), borrower repayment history (mean score - 2.71, ranked 8th) and experience of credit utilization (mean score - 2.63, ranked 9th).

Security for credits is known to ensure that funds are recovered from the borrower at the time of his inability to fully meet his commitments or obligations of repayment. According to Dunkman (2016), the reason for security is to serve as a safeguard against some doubts about borrower's prepayment ability. The author reiterated that security serves as means for increasing loan request above existing facilities, and a secondary step to recover loans in event of default by the borrower. Agyeman (2017) was on his view that although collateral security serves as an important tool in credit decisions, banks should be cautious in setting security requirements as this can have an adverse effect on credit administration. It becomes a risk if bankable projects are solely financed on the availability of collateral security.

Table 4.5: Monitoring the loan portfolio

Monitoring the loan portfolio	Frequency	Percent (%)
Monthly basis	112	98.2
Yearly basis	0	0
When there is default	2	1.8
Total	114	100
Staff in charge of loan monitoring		
Credit officers	98	86
Branch Managers	5	4.4
Special Personnel	11	9.6
Total	114	100
loan monitoring process is helping the bank to control credit default		
Yes	114	100
No	0	0
Don't know	0	0
Total	114	100
Type of loans granted		
Short Term Loan	87	76.3
Medium Term Loan	18	15.8
Long Term Loan	9	7.9
Total	114	100

Source: Field survey, 2019, N= 114

Table 4.5 shows that 112 respondents representing 98.2% said that they monitor loan portfolio monthly, while 2 respondents representing 1.8% indicated that they monitor loan portfolio when there is a default. Moreover, 98 respondents representing 86% revealed that credit officers are in charge of loan monitoring, 11 respondents representing 9.6% said that special personnel are in charge of loan monitoring while 5 respondents

representing 4.4% said that branch managers are in charge of loan monitoring. Furthermore, 114 respondents representing 100% affirmed that loan monitoring process is helping the bank to control credit default. Also, 87 respondents representing 76.3% revealed that their MFI grant short term loans to customers, 18 respondents representing 15.8% revealed that their MFI grant medium term loans to customers while 9 respondents representing 7.9% said that they process long term loans to customers.

Naceur and Goaid (2009) claimed that credits granted by banking institutions have a significant positive relationship with profitability. Achou andTenguh (2007) on a research conducted on bank performance and credit risk management found that there is a significant relationship between financial institutions performance (in terms of profitability) and credit risk management (in terms of loan performance). Better credit management results in better performance. Thus, it is of crucial importance that financial institutions practice prudent credit management techniques and safeguarding the assets of the institutions and protect the investors interests. Nduta (2013) established that credit management practices have a strong relationship with financial performance in terms of profitability. She underscored that credit appraisal, credit risk control and collection policy to a great extent enhance the financial performance of Micro-Finance Institutions in Kenya. This is also true for rural banking institutions in Ghana

4.2.2 The credit risks faced by microfinance institutions

The second objective of the study was to assess the credit risks faced by microfinance institutions. Table 4.6 assessed the credit risks faced by microfinance institutions.

Table 4.6: The credit risks faced by microfinance institutions

ITEMS	1 n(%)	2 n(%)	3 n(%)	4 n(%)	5 n(%)
Complacency	12 (10.5)	33 (28.9)	16 (14)	50 (43.9)	3 (2.7)
Over reliance on guarantors	0	10 (8.8)	8 (7)	87 (76.3)	9 (7.9)
Carelessness and poor underwriting typically evidenced by inadequate loan documentation	27 (23.7)	0	6 (5.3)	21 (18.4)	60 (52.6)
Lack of current financial information and a lack of protective covenants in the loan agreement.	0	0	24 (21.1)	35 (30.7)	55 (48.2)
Communication ineffectiveness	19 (16.7)	0	8 (7)	21 (18.4)	66 (57.9)
Contingencies refer to lenders tendency to play down or ignore circumstances in which a loan might result in default.	0	0	20 (17.5)	15 (13.2)	79 (69.3)
Competition involves following competitors behaviour rather than maintaining the lenders own credit standards.	27 (23.7)	0	6 (5.3)	21 (18.4)	60 (52.6)
Ineffective loan monitoring	0	0	24 (21.1)	35 (30.7)	55 (48.2)

Keys: 1=Strongly Agree, 2=Agree, 3=Neutral, 4=Disagree, 5=Strongly Disagree

Source: Field survey, 2019, N= 114

Table 4.6 indicates that 50 respondents representing 43.9% agreed that complacency can result in loan default, 33 respondents representing 28.9% disagreed, 16 respondents representing 14% were neutral, 12 respondents representing 10.5% strongly disagreed, while 3 respondents representing 2.7% strongly agreed. Also, 87 respondents

representing 76.3% agreed that over reliance on guarantors can cause loan default, 10 respondents representing 8.8% were neutral, 9 respondents representing 7.9% strongly agreed while 8 respondents representing 7% were neutral.

Moreover, 60 respondents representing 52.6% strongly agreed that carelessness and poor underwriting typically evidenced by inadequate loan documentation caused loan default, 27 respondents representing 23.7% strongly disagreed, 21 respondents representing 18.4% agreed while 6 respondents representing 5.3% were neutral.

Furthermore, 55 respondents representing 48.2% agreed that lack of current financial information and a lack of protective covenants in the loan agreement can cause loan default, 35 respondents representing 30.7% agreed, while 24 respondents representing 21.1% were neutral. To add more, 66 respondents representing 57.9% strongly agreed that communication ineffectiveness can cause loan default, 21 respondents representing 18.4% agreed, 19 respondents representing 16.7% disagreed while 8 respondents representing 7% were neutral. The study results 79 respondents representing 69.3% agreed that contingencies refer to lenders tendency to play down or ignore circumstances in which a loan might result in default, 20 respondents representing 17.5% were neutral, while 15 respondents representing 13.2% agreed.

Moreover, 60 respondents representing 52.6% strongly agreed that competition involves following competitors behaviour rather than maintaining the lenders own credit standards caused loan default, 27 respondents representing 23.7% strongly disagreed, 21 respondents representing 18.4% agreed while 6 respondents representing 5.3% were neutral. Furthermore, 55 respondents representing 48.2% agreed that ineffective loan

monitoring cause loan default, 35 respondents representing 30.7% agreed, while 24 respondents representing 21.1% were neutral.

These results are in agreement with Asiedu-Mantse (2011), he indicated that very low deposits and high default rates have plunged some rural banks into serious liquidation problems, leading to the erosion of the general public confidence in rural banks in Ghana. He further stressed that improper lending culture and ineffective monitoring and recovery of credit facilities to customers have contributed to high credit risk and pose liquidity risk in most rural banks. In the year 1999 for example, the Bank of Ghana withdrew the banking licenses of 23 rural banks which were in distressed in the year 1999 due to unacceptable credit behavior and practices which eventually had serious bearing on their liquidity. McNaughton (2009) stated that credit risk has a negative effect on liquidity risk, and if it fails to receive the necessary attention can extremely lead to serious financial crisis of a bank, resulting in the loss of capital, insolvency and the collapse of a bank.

Generally, it is noted that the high risk of loan portfolios in most rural banks was a result of poor credit management practices, and this requires collaborative interventions to find ways of ensuring improvement. The adaption of effective credit management techniques has become a significant tool in enhancing profitability, enhancing liquidity, and maximizing shareholders wealth as well as deepening financial intermediation whilst bringing risk on return to its minimum to stimulate economic growth and development in rural areas. Since profitability is the major driver of organizational performance as measured by return on equity (ROE) would be used as a dependent variable for the

purpose of the study and credit appraisal, credit disbursement and credit collection techniques as independent variables for credit management practices.

4.2.3 Strategies that are instituted to monitor and control credit risk in these MFI institutions.

The third objective of the study was to identify strategies that are instituted to monitor and control credit risk in these MFI institutions. Table 4.7 identified the strategies that are instituted to monitor and control credit risk in these MFI institutions.

Table 4.7 Strategies that are instituted to monitor and control credit risk in these MFI institutions.

Strategies	1 n(%)	2 n(%)	3 n(%)	4 n(%)	5 n(%)
The MFI workers are regularly trained on credit risk management		10(8.8)	17(14.9)	34(29.1)	53(45.3)
Effective Training courses are provided		10(8.8)	10(8.8)	56(49.1)	38(33.3)
The MFI calls for customers opinion when credit risk management needs adjustment		10(8.8)	5(4.4)	45(39.5)	54(47.4)
The MFI follows the lending principles to evaluate the credit worthiness of customers before granting credit.	0	0	18(15.8)	45(39.5)	51(44.8)
There is regular credit review at the MFI	0	0	19(16.7)	17(14.9)	78(68.4)
The MFI effectively monitor customers who have been offered loans		13(11.4)	11(9.6)	31(27.2)	59(51.8)
Credit customers are given expert advice on how to effectively utilize the credit granted	0	16(14)	18(15.8)	20(17.6)	60(52.6)
Credit is granted based on merit	0		20(17.5)	45(39.5)	49(43)
There is no political interference in the profit granting process	0		12(10.5)	37(32.5)	65(57)
There is a comprehensive and effective credit risk strategy and policies		10(8.8)	5(4.4)	45(39.5)	54(47.4)
There is an appropriate Credit Administration and measurement	0	0	18(15.8)	45(39.5)	51(44.8)

Keys: 1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly agree

Source: Field survey, 2019, N= 114

Table 4.6 shows that 53 respondents representing 45.3% strongly agreed that the MFI workers are regularly trained on credit risk management, 34 respondents representing 29.1% agreed, 17 respondents representing 14.9% were neutral, while 10 respondents representing 8.8% disagreed. Also, 56 respondents representing 49.1% strongly agreed that effective training courses are provided, 38 respondents representing 33.3% strongly agreed, 10 respondents representing 8.8% disagreed and were neutral respectively. The study reveals that 54 respondents representing 47.4% strongly agreed that the MFI calls for customers opinion when credit risk management needs adjustment, 45 respondents representing 39.5% agreed, 10 respondents representing 8.8% disagreed, while 5 respondents representing 4.4% were neutral. Furthermore, 51 respondents representing 44.8% agreed that the MFI follows the lending principles to evaluate the credit worthiness of customers before granting credit, 45 respondents representing 39.5% agreed, while 18 respondents representing 15.8% were neutral.

Moreover, 78 respondents representing 68.4% agreed that there is regular credit review at the MFI, 19 respondents representing 16.7% neutral, while 17 respondents representing 14.9% agreed. Also, 59 respondents representing 51.8% agreed that the MFI effectively monitor customers who have been offered loans, 31 respondents representing 27.2% agreed, 13 respondents representing 11.4% disagreed, while 11 respondents representing 9.6% were neutral. Furthermore, 60 respondents representing 52.6% strongly agreed that credit customers are given expert advice on how to effectively utilize the credit granted, 20 respondents representing 17.6% agreed, 18 respondents representing 15.8% were neutral while 16 respondents representing 14% disagreed. The study result indicate that 49 respondents representing 43% strongly agreed that credit is granted based on merit, 45

respondents representing 39.5% agreed, while 20 respondents representing 17.5% were neutral.

Also, 65 respondents representing 57% agreed that there is no political interference in the profit granting process, 37 respondents representing 32.5% agreed, while 12 respondents representing 10.5% were neutral. The study reveals that 54 respondents representing 47.4% strongly agreed that there is a comprehensive and effective credit risk strategy and policies, 45 respondents representing 39.5% agreed, 10 respondents representing 8.8% disagreed, while 5 respondents representing 4.4% were neutral. Furthermore, 51 respondents representing 44.8% agreed that there is an appropriate credit administration and measurement, 45 respondents representing 39.5% agreed, while 18 respondents representing 15.8% were neutral. Moreover, 78 respondents representing 68.4% agreed that there is regular credit review at the MFI, 19 respondents representing 16.7% neutral, while 17 respondents representing 14.9% agreed.

These results concur with Huppi and Feder (2010), they stressed that loan monitoring plays a significant role in ensuring the success of the project and, hence boost loan repayments on time. The authors emphasized that regular monitoring of loans lead to higher recovery rates by giving early possible dangers of delinquencies and diversion of loan funds by the borrower. The authors stressed that monitoring of credits should be seen as a catalyst to ensuring repayments at early signs of delinquencies either on interest or principal. Regular monitoring the borrower of the obligations of loan repayment as scheduled to the lending bank. However, most Rural Banks have not been able to take advantage to reduce the high rate of their loan defaulters.

Casu et al. (2016) indicated that banks must thoroughly assess the state of borrowers' ability to honor repayment of loans before, during and after the facilities had been granted. Asamani-Darko, (Personal Communication) revealed that monitoring is a vital step towards recovery because it gives firsthand information on situations that may eventually lead to arrears and subsequent default. One of the major causes of loan default in most Rural Banks is poor monitoring and control. Monitoring and control of all loans and the entire portfolio management is the responsibility of the Head of Credits and the credit teams at each branch of the bank.

For poor performing loans, credit officers may need to pay regular visits to customers to ascertain reasons for late payment, poor payment and non-payment. Nevertheless, good loans should also be monitored regularly to avoid degeneration of delinquent and hardcore loans. He advised that, monitoring could be done by visiting or calling of client by the Officer and through the liaising agents of the bank and the customer.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter summarized the findings of the study, conclusions, recommendations and suggestions for further research.

5.1 Summary of Findings

The purpose of the study was to assess the role of credit risk management in the liquidity position of microfinance companies in Ghana: case study of selected MFIs in the Kumasi Metropolis. The researcher used descriptive research approach. Quantitative research approach was used. The target population of the study was made up of employees of selected MFIs in the Kumasi Metropolis that comprised of 156 employees. Census method was used to select all the 156 respondents for the study. Questionnaire was the main instrument used to gather primary data. The statistical analysis such as frequencies, percentages and mean were used to analyze the questionnaire.

The first objective of the study was to evaluate the effectiveness of credit management practices used by the selected MFIs in the Kumasi Metropolis. The study findings revealed that an average of 87.5% of the respondents agreed that the effective credit risk reducing tools that were used by the MFI to manage loan default were staff training (mean score, 3.21, ranked 1st), client project evaluation (mean score - 3.21, ranked 1st), internal controls (mean score - 2.45, ranked 2nd), customer affordability calculation (mean score - 2.23, ranked 3rd), credit granting policy (mean score - 2.21, ranked 4th), debt collection techniques (mean score - 2.20, ranked 5th) and credit scoring models (mean score - 1.89, ranked 6th).

The study findings revealed that an average of 93.6% of the respondents agreed that the factors MFI consider before granting loans to clients were ability to pay (mean score - 3.45, ranked 1st), future prospects of the business (mean score - 3.42, ranked 2nd), profitability (mean score- 3.41, ranked 3rd), cash flow statement (mean score - 4th), profit and loss statement (mean score - 5th), security (mean score - 2.75, ranked 6th), character (mean score - 2.72, ranked 7th), borrower repayment history (mean score - 2.71, ranked 8th) and experience of credit utilization (mean score - 2.63, ranked 9th).

The study results show that 98.2% said that they monitor loan portfolio monthly. Moreover, 86% revealed that credit officers are in charge of loan monitoring. Furthermore, 100% affirmed that loan monitoring process is helping the bank to control credit default. Also, 76.3% revealed that their MFI grant short term loans to customers.

The second objective of the study was to assess the credit risks faced by microfinance institutions. The study results indicate that 43.9% agreed that complacency can result in loan default. Also, 76.3% agreed that over reliance on guarantors can cause loan default. Moreover, 52.6% strongly agreed that carelessness and poor underwriting typically evidenced by inadequate loan documentation caused loan default. Furthermore, 48.2% agreed that lack of current financial information and a lack of protective covenants in the loan agreement can cause loan default. To add more, 57.9% strongly agreed that communication ineffectiveness can cause loan default. The study results 69.3% agreed that contingencies refer to lenders tendency to play down or ignore circumstances in which a loan might result in default. Moreover, 52.6% strongly agreed that competition involves following competitors behaviour rather than maintaining the lenders own credit

standards caused loan default. Furthermore, 48.2% agreed that ineffective loan monitoring cause loan default.

The third objective of the study was to identify strategies that are instituted to monitor and control credit risk in these MFI institutions. The study results show that 45.3% strongly agreed that the MFI workers are regularly trained on credit risk management. Also, 49.1% strongly agreed that effective training courses are provided. The study reveals that 47.4% strongly agreed that the MFI calls for customer's opinion when credit risk management needs adjustment. Furthermore, 44.8% agreed that the MFI follows the lending principles to evaluate the credit worthiness of customers before granting credit. Moreover, 68.4% agreed that there is regular credit review at the MFI. Also, 51.8% agreed that the MFI effectively monitor customers who have been offered loans. Furthermore, 52.6% strongly agreed that credit customers are given expert advice on how to effectively utilize the credit granted. The study result indicate that 43% strongly agreed that credit is granted based on merit. Also, 57% agreed that there is no political interference in the profit granting process. The study reveals that 47.4% strongly agreed that there is a comprehensive and effective credit risk strategy and policies. Furthermore, 44.8% agreed that there is an appropriate credit administration and measurement. Moreover, 68.4% agreed that there is regular credit review at the MFI.

5.2 Conclusions

The study findings concluded that the credit risk reducing tools that were used by the MFI to manage loan default were staff training, client project evaluation, internal controls, customer affordability calculation, credit granting policy, debt collection techniques and credit scoring models. The factors MFI considered before granting loans

to clients were ability to pay, future prospects of the business, profitability of the business, cash flow statement, profit and loss statement, security, character of customers, borrower repayment history and experience of credit utilization.

The credit risks faced by microfinance institutions were complacency, over reliance on guarantors, carelessness and poor underwriting typically evidenced by inadequate loan documentation, lack of current financial information and a lack of protective covenants in the loan agreement, communication ineffectiveness, contingencies refer to lenders tendency to play down or ignore circumstances in which a loan might result in default, and ineffective loan monitoring cause loan default.

5.3 Recommendations

According to the conclusions of the study, the researcher recommended that;

The management of the MFI must organise periodic workshops and seminars to educate credit officers on loan approval, credit appraisal techniques, loan supervision strategies and monitoring strategies to improve loan recovery in the MFI.

- There is the need for credit officers to organise training programmes for loan applicants on the profitable ventures to invest loans in order to avoid business failure which caused loan default to the MFI.
- The Management of the MFI should provide moderate interest rates on loans to enhance loan repayments.
- The credit officers of the MFI should demand valuable securities from loan applicants to secure loans so that in case of default, the MFI can sell the assets to defray the defaulted loans.

- The Management of the MFI should recruit additional qualified credit officers to monitor loan performance.
- There is the need to provide modern software's, logistics and modern credit documentations to monitor approved loans.

5.4 Suggestions for further Research

Based on the recommendations of the study, the researcher suggested that a similar study should be conducted to investigate the impact of in-service training on credit officer's loan monitoring performance using selected financial institutions in the Kumasi Metropolis as case study.



REFERENCES

- Acharya, V., Gale, D., & Yorulmazer, T. (2011). 'Rollover risk and market freezes'. *The Journal of Finance*, 66, 1177-1209.
- Acharya, V., Shin, H. S., & Yorulmazer, T. (2009). 'Crisis Resolution and Bank Liquidity'. Retrieved March 2010, from Social Science Research Network: <http://ssrn.com/abstract=1108103>
- Achou, F. T. & Tegnuh, N. C. (2007). *Banks Performance and Credit Risk Management*. Master Degree Project, School of Technology and Society. University of Skovde Press.
- Adansi Rural Bank Limited, Annual Reports, 2009-2014.
- Adansi Rural Bank Limited, Credit Policy Manual, 2014.
- Adjei, J.K. (2010). *Microfinance and Poverty Reduction: The Experience of Ghana*, Accra: BOLD Communications Limited
- Aduda J & Gitonga J. (2011). The Relationship between Credit Risk Management and Profitability among the Commercial Banks in Kenya. *Journal of Modern Accounting and Auditing*, 7(9), 934-946.
- Agyemang, K. (2017). Short-Term Lending Policies, *Journal of the Ghana Institute of Banks*. 2(1) 35-36.
- Al-khouri, R. (2012). 'Bank Characteristics and liquidity Transformation: The case of GCC banks'. *International Journal of Economics and Finance*, 4(12).
- Allen, F., and Gale, D. (2014). 'Financial intermediaries and markets'. *Econometrica*, 72, 1023- 1061.

- Almeida, H., Campello, M. and Weisbach, M. (2014). 'The Cash flow sensitivity of cash'. *Journal of Finance*, 59.
- Apanga, M., Appiah, K., & Arthur, J. (2016). Credit risk management of Ghanaian listed banks. *International Journal of Law and Management*, 58(2), 162 - 178.
- Artrill, P., McLaney, E. (2011). *Financial Accounting for Decision Makers*. (6th ed). Pearson Education Limited, Harlow. Pp 217-261.
- Aryeetey, E. (2016). *The Complementary Role of Informal Financial Institutions in the Retailing of Credit: Evaluation of Innovative Approaches*, Legon-Accra, ISSER Publication.
- Asamani-Darko, M. (Personal Communication). Head of Credits, Adansi Rural Bank Limited.
- Asiama P. & Osei V. (2007). 'Microfinance in Ghana: An overview' Research Department - Bank of Ghana, Economic Web Institute.
- Asiedu-Mante, E. (2011). *Rural Banking in Ghana*. Prentice Hall. Legon - Accra.
- Aspachs, O., Nier, E., and Tiesset, M. (2015). Liquidity, Banking Regulation and the Macro economy: Evidence on Bank Liquidity Holdings from A Panel of UK-Resident Banks'. Bank of England Working Paper.
- Auronen, L. (2013). Asymmetric information: Theory and applications. <http://riem.swufe.edu.cn/new/techupload/course/20071191742254245.pdf>
- Bai, J., Krishnamurthy, A., and Weymuller, C. H. (2015). 'Measuring liquidity mismatch in the banking sector'. Available at SSRN 2343043.
- Bank of Ghana (April 2007), Press Release: Credit Reporting Act (ACT 726).

- Barth J. R., Nolle D. E., Phumiwasana T., and Yago, G. (2013). “A cross-country analysis of the bank supervisory framework and bank performance”. *Financial Markets, Institutions & Instruments*, 12(2), 67-120.
- Basel (2009). “Principles for the management of credit risk”, Consultative paper issued by the Basel Committee on Banking Supervision, Basel.
- Basel (2009). Principles for the management of credit risk. Consultative paper issued by the Basel Committee on Banking Supervision, Basel.
- Basel (2014). Bank failures in mature economies. Working Paper No. 13, Basel Committee on Banking Supervision, Basel.
- Basel Committee on Banking Supervision (2009). Principles for the Management of Credit Risk, Bank for International Settlements, Basel.
- Basel Committee on Banking Supervision (2010). “Sound Practices for Managing Liquidity in Banking Organizations,” Bank for International Settlements.
- Basel Committee on Banking Supervision, Principles for the Management of Credit Risk, September 2010. Publication No. 54.
- Basel Committee on Banking Supervision, (2010). “Basel III: International Framework for Liquidity Risk Measurement, Standards and Monitoring.” Available at <http://www.bis.org/publ/bcbs188.pdf.com>
- Berger, A. N., and Bouwman, C. H. S. (2009). ‘Bank liquidity creation’. *Review of Financial Studies*, 22, 3779-3837.
- Berger, A. N., and Bouwman, C. H. S. (2012). ‘Bank liquidity creation, monetary policy, and financial crises’. Working Paper.

- Berger, A. N., Bouwman, C.H.S., Kick, T., and Schaeck, K. (2010). 'Bank liquidity creation and risk taking during distress'. Discussion Paper, Series 2: Banking and Financial Studies No 05/2010
- Besis, J. (2009). Risk Management in Banking, Third Edition.
- Besis, J. (2009). Risk Management in Banking. John Wiley and Sons Inc. Chichester.
- Best, P. (2011). Stress testing. In Lore, M. & Borodovsky L. (Eds.). The professional's handbook of financial risk management. Global Association of Risk Professionals (GARP).
- Brau, J. & Woller, G. (2014). "Microfinance: A Comprehensive Review of the Existing Literature", Journal of Entrepreneurial Finance and Business Ventures, 9(1), 2004, pp. 1-26
- Breuer, T., Jandacka, M., Rheinberger, K., & Summer, M. (2010). "Does adding up of economic capital for market- and credit risk amount to conservative risk assessment". Journal of Banking & Finance, 34(4), 703-712.
- Bruet, T. (2014). "Four Risks that Must be Managed by Microfinance Institutions", Microfinance Experience Series, No. 2
- Brunnermeier M., Gorton, G. & Krishnamurthy A. (2011), Risk topography, NBER Macroeconomic Annual
- Brunnermeier, M. K. (2009). 'Deciphering the Liquidity and Credit Crunch of 2007–2008'. Journal of Economic Perspectives 23 (1), 77–100.
- Brunnermeier, M. K., & Pedersen, L. H. (2009). Market liquidity and Funding Liquidity'. The Review of Financial Studies, 22(6), 2201-2238.

- Bryant, J. (2010). 'A model of reserves, bank runs, and deposit insurance'. *Journal of Banking and Finance*, 4, 335-344.
- Bunda, I. and Desquilbet, J. (2008). 'The bank liquidity smile across exchange rate regimes'. *International Economic Journal*, 22(3), 361-386.
- Casu, B., Giradone, C., & Molyneux, P. (2016). *Introduction to Banking*: Prentice Hall. Pp 259-292.
- Choi P.B., Park J., and Ho C. (2013). "Liquidity creation or de-creation: evidence from US property and liability insurance industry". *Managerial Finance*, 39, 938 – 962.
- Ciby, J. (2013). *Advanced Credit Risk Analysis and Management*.
- Cooper, M., Jackson, W. and Patterson, G. (2013). Evidence of Profitability in the Cross Section of Bank Stock Returns. *Journal of Banking and Finance* 27, pp 817-850.
- Cucinelli D. (2013). 'The Determinants of Bank Liquidity Risk within the Context of Euro- Area'. *Interdisciplinary Journal of Research in Business*, 2, 51- 64.
- Deep, A., & Schaefer, G. (2014). 'Are banks liquidity transformers'? Harvard University Faculty Research, Working Paper.
- Diamond, D. W., & Rajan, R. G. (2011). 'Liquidity risk, liquidity creation, and financial fragility: A theory of banking.' *Journal of Political Economy*, 109, 287-327.
- Diamond, D. W., and Rajan, R. G. (2010). 'A theory of bank capital.' *Journal of Finance*, 55, 2431- 2465.

- Diamond, D.W., and Dybvig, P. H. (2013). 'Bank runs, deposit insurance, and liquidity.' *Journal of Political Economy*, 91, 401-419.
- Dunkman, W.E. (2016). *Money, Credit and Banking*. New-York: Random House.
- Foley, C. F., Hartzell, J.C., Titman, S. and Twite, J. G. (2007). 'Why do firms hold so much cash? A tax-based explanation'. *The Journal of Financial Economics*, 86, 579-607.
- Freedman, P.L. and Click, R.W. (2006). 'Banks that don't lend,-Unlocking credit to spurgrowth in developing countries.' *Development Policy Review*, 24 (3), 279-302
- Freixas, X., & Rochet, J. (2008). *Microeconomics of banking*, 2nd edn, The MIT Press.
- Fukuda, S. (2012). "Market-specific and currency-specific risk during the global financial crisis: evidence from the interbank markets in Tokyo and London", *Journal of Banking and Finance*, 36(12), pp.3185-3196
- Global Financial Stability Report (2010). 'How to address the systemic part of liquidity risk.' 75-110.
- Gorton, G. (2008). *Banking panics and business cycles*. *Oxford Economic Papers*, 40,751- 781.
- Greenbaum, S. I., & Thakor, A. V. (2007). 'Contemporary Financial Intermediation', (2nd ed), Amsterdam: North Holland, Elsevier, Academic Press.
- Greuning H.V., & Bratanovic S. B., (2013). "Analyzing and Managing Banking Risk: A framework for assessing corporate governance and Financial Risk", The World Bank, Washington D.C.

- Greuning, H. & Bratanovic, S. B. (2013). Analyzing and Managing Banking Risk: A Framework for Assessing Corporate Governance and Financial Risk, (2nd ed). The World Bank, Washington, DC.
- Hamzawi, M. K. K. (2010). Economics of bank credit. (7th ed), Munshat Alamrif, Alexandria.
- Heffernan, S. (2016). Modern Banking in Theory and Practice, Wiley, New York, NY.
- Holmstrom, B. & Tirole, J. (2010). "Liquidity and risk management". Journal of Money, Credit and Banking, 32(3), 295-319.
- Horvath R., Seidler J., and Weill L. (2012). 'How bank competition influences liquidity creation'. Econometric Modelling, 56.
- Hosna , A., Bakaeva, M. & Sun, J. (2009). Credit Risk Management and Profitability in Commercial Banks. Master Degree Project No. 2009: 36, School of Business, Economics and Law, University of Gothenburg.
- Huppi, M., & Feder, G. (2010). The Role of Groups and Credits Cooperatives in Rural Lending. The World Bank Research Observer 5(22), pp187-202.
- Ion, T. & Dragos, P. (2016). "Policies of the Commercial Banks Liquidity Management in the Crisis Context", Bank of Romania Working Paper.
- Islam, M., & Salim, M. (2011). Analysis of Operational Efficiency of Commercial Banks: A Case Study of Islamic Banks in Bangladesh. Journal of Banking and Financial Services. 5(1). Pp 83-96.
- Ismail, R. (2010). 'The Management of Liquidity Risk in Islamic Banks: The Case Of Indonesia'. Durham theses, Durham University. Available at Durham E-Theses Online: <http://etheses.dur.ac.uk/550/>.

- Jain, P.S.I. (2016). Managing Credit for the Rural Poor: Lessons from the Grameen Bank. *World Development*, 24(1), 79-89.
- Jensen, M. C. (2016). Agency cost of free cash flow, corporate finance and takeovers. *The American Economic Review*, 76, 323-329.
- Kashyap, A. K., Rajan, R. G., and Stein, J. K. (2012). 'Banks as liquidity providers: An explanation for the coexistence of lending and deposit taking'. *Journal of Finance*, 58, 33-73.
- Keynes, J. M. (2016). *The General Theory of Employment, Interest and Money*, Macmillan, London
- Koch, T. W. & MacDonald, S. S. (2010). *Bank Management*. The Dryden Press/Harcourt College Publishers, Hinsdale, IL/Orlando, FL.
- Koch, W. T. & MacDonald, S. (2016). *Bank Management*, (6th ed). South-Western, a division of Thomson Learning.
- Kumbirai, M. & Webb, R. (2010). A Financial Ratio Analysis of Commercial Bank Performance in South Africa. *African Review of Economics and Finance*, 2(1) December 2010. Pp. 30-54.
- Ledgerwood, J. (2008). *Microfinance Handbook: An Institutional and Financial Perspective (Sustainable Banking with the Poor)*; Washington D.C., The World Bank
- Lei C.H., and Song Z. (2013). 'Liquidity Creation and Bank Capital Structure in China'. *Global Finance Journal*, 24, 188-202.
- Littlefield, E., Morduch, J., & Hashemi, S. (2013). Is microfinance an effective strategy to reach the Millennium Development Goals? *Focus Note*, 24(2003), 1-11

- Mahmud, S. (2013). Actually how Empowering is Microcredit? *Development and Change*, 34(4), 577-605.
- Matz, L., & Neu, P. (2007). 'Liquidity Risk Measurement and Management: A Practitioner's Guide to Global Best Practices', John Wiley and Sons (Asia) Pte Ltd, Singapore.
- McNaughton, D. (2009). *Managing Your Credit: How to Establish, Maintain, Repair and Protect Your Credit*. Berkeley Publishing Group.
- Misklin, S.F. (2016). *The Economics of Money, Banking and Financial Market*, (8th ed), pp. 223-241.
- Moin, S. M. (2013). Financial Performance of Islamic Banking and Conventional Banking in Pakistan: A Comparative Study. *International Journal of Innovative and Applied Finance*, 2013.
- Molyneux P., & Thornton J., (2012). "Determinants of European bank profitability: A note", *Journal of Banking and Finance*, 16(6), 1173-1178.
- Morduch, J. (2010). The microfinance schism, in: *World Development*, 28(4), pp. 617-629
- Nacuer, S. M. & Goaid, M. (2009). The Determinants of Commercial Banks Interest Margin and Profitability. Evidence from Tunisia. *International Monetary Fund (IMF)*
- Nair, A., & Fissaha, A. (2010). *Rural Banking: The Case of Rural and Community Banks in Ghana*.

- Nduta, G. R. (2013). The Effect of Credit Management on the Financial Performance of Micro-Finance Institutions in Kenya. Master Degree Project. University of Nairobi, Kenya.
- Nijskens, R., & Wagner, W. (2011). "Credit risk transfer activities and systemic risk: how banks became lessrisky individually but posed greater risks to the financial system at the same time". *Journal of Banking & Finance*, 35(6), 1391-1398.
- Oberdorf, C. (2009). *Microfinance: conversations with the Experts*. United States of America. Calmeadow and Accion International
- Olagunju, A., Adeyanju, O.D., & Olabode O.S. (2011). 'Liquidity Management and Commercial Banks' Profitability in Nigeria'. *Research Journal of Finance and Accounting*, 2(7/8), 2222-2847.
- online:www.dochas.ie/documents/MicroFinance_literature_review.pdf
- Opler, T., Pinkowitz, L., Stulz, R. & Williamson, R. (2009). "The Determinants and Implications of Corporate Cash Holdings." RBER Working Paper 6234, Cambridge National Bureau of Economic Research).
- Otero, M. (2009)." Bringing Development Back into Microfinance" A paper presented at the New Development Finance Conference, Goethe University, Frankfurt,
- Parker, R.H. (2009). *Understanding Company Financial Statements* (5th ed.). England Penguin Business
- Pinprayong, B., & Siengthai, S. (2012). Restructuring for Organizational Efficiency in Banking Sector in Thailand. A Case Study of Siam Commercial Bank. *Far East Journal of Psychology and Business* 8(2). pp 29-42

- Poorman, F. Jr., & Blake, J. (2005). "Measuring and Modelling Liquidity Risk: New Ideas and Metrics." Financial Managers Society Inc., White Paper.
- Powers, J. (2015). Shifting Technical Assistance Needs for Commercial MFIs: A Focus on Risk Management Tools. New York: Banyan Global.
- Rose, P.S. (2009). Commercial Bank Management. Boston: Irwin McGraw Hill.
- Rouse, C.N. (2009). Bankers' Lending Techniques: Chartered Institute of Bankers Publicity.
- Santomero, A. M. (2017). Commercial Bank Risk Management: An Analysis of the Process. Wharton School of the University of Pennsylvania, Philadelphia, PA.
- Santomero, A., (2017). Commercial bank risk management: an analysis of the process. Journal of Financial Services Research, Sept.
- Saunders, A., & Cornett, M. (2016). 'Financial Institutions Management: A Risk Management Approach', McGraw-Hill, Boston.
- Saunders, M., Lewis, P. & Thornhill, A. (2016). Research Method for Business Students. Pearson Education Limited Harlow: England, pp. 129-168.
- Scherr, F.C. (2009). 'Modern Working Capital Management: Text and Cases'. 1st Edn. Prentice Hall Englewood Cliffs, New Jersey.
- Schreiner, M., & Colombet, H. H. (2011). From urban to rural: Lessons for microfinance from Argentina. Development policy review, 19(3), 339-354.
- Shen, C. H., Chen, Y. K., Kao, L. F., and Yeh, C. Y. (2009). Bank liquidity risk and performance. In 17th Conference on the Theories and Practices of Securities and Financial Markets, Hsi-Tze Bay, Kaohsiung, Taiwan.

- Siegel, P., Alwang, B., & Canagarajah, S. (2001). Viewing micro insurance as a social risk management instrument. The World Bank Discussion Paper Series (0116), 1-39.
- Steel, W.F & Andah, D.O. (2013). Regulation and Supervision of Rural and Microfinance Institutions of Ghana: Implications for Development and Performance of the Industry. African Region Working Papers Services No. 49. World Bank, Washington D.C.
- Stiglitz, J. E. (2017). Credit Rationing in Markets with Imperfect Information. An American Economic Review 71.
- Sylvian, B., & Diane, C. (2013). The Handbook of Credit Risk Management.
- Tshorhe, J. S., Aboagye A.Q.Q., & Coleman A. K. (2011). Corporate governance and bank risk management in Ghana.
- United Nations (2010). Microfinance and Poverty Eradication: Strengthening Africa's Microfinance Institutions, New York, United Nations.
- Van Horne, J.C., Wachowicz, J.M. (2005). Fundamentals of Financial Management. Financial Times, Prentice Hall, 2005 - Business and Economics. Pp. 712
- Vento, G., and La Ganga, P. (2009). 'Bank Liquidity Risk Management and Supervision: Which lesson from recent market turmoil?' Journal of Money, Investment and Banking, 10, 80-125.
- Vodova, P. (2011). 'Liquidity of Czech Commercial Banks and its Determinants'. International Journal of Mathematical Models and Methods in applied sciences. 5(6)

- Vodova, P. (2013). 'Determinants of Commercial Bank Liquidity In Hungary'. *Financial Internet Quarterly*, 9(3).
- Walker, D. (2009). *A Review of Corporate Governance in UK Banks and other Financial Entities*, 26th November 2009, Final Recommendations, HM Treasury, London.
- Weiss, J. & Montgomery, H. (2015). 'Great Expectations: Microfinance and Poverty Reduction in Asia and Latin America', *Oxford Development Studies*, 33(3) and 4, pp. 391-416.



APPENDIX A

UNIVERSITY OF EDUCATION, WINNEBA COLLEGE OF TECHNOLOGY EDUCATION

QUESTIONNAIRE FOR EMPLOYEES OF MFIs IN THE KUMASI METROPOLIS

Dear Respondent,

I am a post graduate student studying Master of Business Administration at College of Technology Education, from the University of Education, Winneba, Kumasi. This questionnaire is to seek your opinion on **“THE ROLE OF CREDIT RISK MANAGEMENT IN THE LIQUIDITY POSITION OF MICROFINANCE COMPANIES IN GHANA: CASE STUDY OF SELECTED MICROFINANCE INSTITUTIONS IN THE KUMASI METROPOLIS”**. Please honestly provide your answers to this questionnaire. You may tick (✓) the correct responds. Your cooperation is highly needed. Thank you.

SECTION 1: Demographic Characteristics of the Respondents

1. Gender: Male Female

2. Educational Qualification of the Respondents

No formal education BECE/SSSCE/WASSCE Diploma Bachelor's degree

Master's degree PhD

3. Status: Credit Officer Accountant

Section B: The credit management practices used by the selected MFIs in the Kumasi Metropolis.

4. Which categories of loan customers do you deal with? Tick as many as applicable

Agric Mining Trading Small scale entrepreneur Contractors

Salaried Workers Manufacturing

Please evaluate the credit risk reducing tools and evaluate their importance to your MFI.

Using the following scale: 1= Very important, 2= somewhat important, 3=important, 4=Neutral, 5= not important

<i>S/N</i>	<i>ITEM</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
5	Credit granting policy					
6	Customer affordability calculation					
7	Internal controls					
8	Staff training					
9	Credit scoring models					
10.	Debt collection					
11.	Client project evaluation					

12. How do you rate the following factors before granting loans? Please circle your choice.

Please rate the following factors before granting loans. Using the scale:

1= Low, 2= Moderate, 3=High, 4=Very high

<i>Factors</i>	<i>Very high(4)</i>	<i>High(3)</i>	<i>Moderate(2)</i>	<i>Low(1)</i>
a. Character				
b. Security				
c. Ability to pay				
d. Borrower repayment history				
c. Profit and Loss statement				
d. Future prospects of the business				
e. Cash flow statement				
f. Experience of credit utilization				
e. Profitability				

13. How often do you monitor the loan portfolio?

Monthly basis Yearly When there is default

14. Who are those in charge of loan monitoring?

Credit officers All workers Branch Managers Special Personnel

15. Will you say that your loan monitoring process is helping the bank to control credit default?

Yes No Don't know

16. What type of loans do you grant? Tick as many as applicable

Short Term Loan [] Medium Term Loan [] Long Term Loan []

Other (Specify)

17. Section C: Rate the credit risks faced by microfinance institutions.

Using the following scale: SD-Strongly disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly agree

<i>ITEM</i>	<i>SD</i>	<i>D</i>	<i>N</i>	<i>A</i>	<i>SA</i>
<p>a. Complacency</p> <p>b. Over reliance on guarantors</p> <p>c. Carelessness and poor underwriting typically evidenced by inadequate loan documentation</p> <p>d. Lack of current financial information and a lack of protective covenants in the loan agreement.</p> <p>e. Communication ineffectiveness</p> <p>f. Contingencies refer to lenders tendency to play down or ignore circumstances in which a loan might result in default.</p> <p>g. Competition involves following competitors behaviour rather than maintaining the lenders own credit standards.</p> <p>h. Ineffective loan monitoring</p>					

Section D: Strategies that are instituted to monitor and control credit risk in these MFI institutions.

In your opinion, to what extent can the following strategies be instituted to monitor and control credit risk in these MFI institutions in the Kumasi Metropolis?

1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly agree

<i>S/N</i>	<i>Strategies</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
18	The MFI workers are regularly trained on credit risk management					
19	Effective Training courses are provided					
20	The MFI calls for customers opinion when credit risk management needs adjustment					
21	The MFI follows the lending principles to evaluate the credit worthiness of customers before granting credit.					
22	There is regular credit review at the MFI					
23	The MFI effectively monitor customers who have been offered loans					
24	Credit customers are given expert advice on how to effectively utilize the credit granted					
25	Credit is granted based on merit					
26	There is no political interference in the profit granting process					
27	There is a comprehensive and effective credit risk strategy and policies					
28	There is an appropriate Credit Administration and measurement					

Thanks for your cooperation