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ASSESSMENT OF CREDIT ANALYSIS MODELS IN MICRO FINANCE DELIVERY IN GHANA: THE CASE OF SELECTED MICRO FINANCE INSTITUTIONS (MFIs)

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DECLARATION

I hereby declare that this thesis is the true account of my own research work except for references to other people's work which have been fully acknowledged.

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DEDICATION

I dedicate this research work to the Almighty God, my wife Mrs. Theresa Efua Brown, my children Naa Aku Shika Dromor Brown and Nii Kpako Feehi Brown and my cherished mothers, Madam Victoria Naa Ayele Nablah and Mrs. Elizabeth T. Ankrah.

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ABSTRACT

MFIs in the recent past had been successful in providing sustainable lending to SMEs. The research work sought to analyse the credit analysis models/methods used by the MFIs in assessing the credit risks of their clients. The study further sought to identify the strengths and limitations of the models of credit analysis. Five (5) MFIs were selected as case study for the research and face-to-face semi-structured interviews were used to gather information from the Management and Credit Staff of the selected MFIs. The data was then organized and assembled into a diagrammatic network that helped the researcher to recognize relationships and patterns in the data and drew the relevant conclusions. It was found out that the use of a program design based on group model with key features of joint-liability and social sanctions, dynamic incentives, collateral substitutes, regular payment schedules were common to all the credit methodologies of the MFIs. The group lending models helped the MFIs to shift the screening and monitoring of loans to the borrowers, thereby reducing processing costs and credit risks. The researcher recommended that the introduction of incentive schemes towards good record keeping, setting up of research departments, offering of specific and relevant training to clients and the use of a hybrid of empirical models and the innovative models by the MFIs could help improve their credit decisions, ensure sustainability of their models and also improve credit portfolio quality.

TABLE OF CONTENTS

CHAPTER ONE

GENERAL INTRODUCTION

1.1 INTRODUCTION

This research work is to analyze the various credit models used in assessing credit risk of Small and Medium Enterprises (SMEs) in Ghana. The SMEs are largely served by Micro Finance Institutions (MFIs) who apply several models of credit analysis in assessing the credit risks of these SMEs before extending credit facilities to them.

Empirical credit models mostly used by the banks are applied with a threefold objective: to increase the objectivity of credit decisions, to reduce operating costs, to maintain assessment quality. Standard documentation required for such models are typically non-existent in SMEs. However, they need credit support from financial institutions to sustain their businesses to meet growing demand for their goods and services. The MFIs thus use various credit analysis models in assessing the credit risks of these SMEs in advancing credit to them.

The research is focused on identifying the various credit analysis models or methods the MFIs use and the strengths and weaknesses of these models. Thus, how sustainable these models are will also be considered in the conclusions of the research. The research is organized into five chapters.

1.2 BACKGROUND OF THE STUDY

SMEs are described as private enterprises of all sectors with a workforce of up to about one hundred (100), typically sole proprietors, partnerships or non-public limited liability companies.

They often form a sizeable part of the enterprise sector of a country, and provide a large part of employment. Due to a variety of reasons, lending to SMEs has been underdeveloped in transition economies and developing countries of which Ghana is no exception.

The Asian Development Bank (Conroy, 2003 cited in Herfandy, et al., 2009) defines microfinance as “the provision of a broad range of financial services such as deposits, loans, payment services, and insurance to poor and low income households and their micro enterprises”.

The microfinance industry has been able to show successful results in terms of extending credit facilities to SMEs and many microfinance institutions (MFIs) present strong repayment performance. This is evidenced in the accelerated growth in the industry as many MFIs spring up and other commercial banks introduce various products targeted at these SMEs.

This success may be regarded as a bit peculiar since a typical “client” would tend to have poor or no credit history, low income, little education, no or inappropriate documentation and no sizeable collateral. As such, the people within the target group for these services, in particular loans, would not be considered as an ideal client in the formal financial sector. In many ways MFIs face the same challenges as the commercial bank sector when offering financial services to the SMEs – higher risk, lower margins, agency costs and clients being dispersed over a wide geographical area with modest infrastructure, with increasing transaction costs as a result.

Recent history has shown that the difficulties facing banks operating in the micro finance have been hard to overcome; many formal credit institutions have failed in their attempts to provide financial services to the poor and SMEs in a sustainable way. Interesting to note is that where the formal bank sector failed, in the recent past microfinance is thriving today. The question that comes to mind is: What do microfinance institutions do differently compared to their peers that leads to the high degree of success, measured in terms of high repayment rates that they attain and sustainable lending business to SMEs?

The purpose of this research is thus to analyze the credit analysis models employed by the MFIs in assessing the credit risks of the SMEs.

1.3 STATEMENT OF THE PROBLEM

Asiama and Osei, (2007) in a working paper (WP/BOG-2007/01) published by the research department of the Bank of Ghana in 2007 on "A Note on Microfinance in Ghana", argued that microfinance, when properly harnessed can make significant contributions through several channels. They further stated that Microfinance can promote higher investment leading to economic empowerment, which in turn promotes confidence and self-esteem, particularly for the vulnerable. The study recommended that, efforts must be geared towards the improvement of the institutional capacity as well as the regulatory framework of the microfinance sector in Ghana.

To achieve the above, it is imperative that models used in assessing the credit risks of SMEs which are the main target market for MFIs be studied in comparison to empirical models of credit analysis. The efficacy of the credit analysis models used by the MFIs in assessing the credit risks of SMEs have direct impact on the quality of their loan portfolios which also impacts the profitability of the MFIs. The sustainability of these institutions depend on their profitability, hence the essence to analyse the efficacy of the credit analysis models they employ.

The concern of the researcher is to analyse the various models used by the MFIs in assessing credit risks of SMEs in their credit delivery, since high rate of bad loans can lead to collapse of the sector. This study thus, seeks to bring out the strengths and limitations of such models for relevant recommendations to help curb possibility of failure of the Ghanaian microfinance sector in the long term.

1.4 OBJECTIVES OF THE STUDY

General Objective:

The main purpose of this study was to analyze the various models of credit analysis used by MFIs in assessing the credit risks of SMEs and making credit decisions. The study focused on the strengths and limitations of the identified models of credit analysis and recommended ways of improving and sustaining them.

Specific Objectives:

The study specifically sought to:

1. Identify the various innovative models/methods employed by MFIs in assessing the credit risks of SMEs.
2. Analyze the strengths and limitations of the identified models/methods used by MFIs.
3. Identify how the MFIs have being mitigating the impact of the identified weakness/limitations of their various models/methods.

1.5 RESEARCH QUESTIONS

Related to the problem, the research seeks to address four main questions outlined below:

1. What models/methods do the MFIs employ in assessing the credit risks of SMEs?
2. What are the strengths and limitations of the various models of credit analysis used by the MFIs?
3. How do the MFIs mitigate the impact of the weakness/limitations of the models they use?
4. In what ways can the models/methods be standardised and taught as empirical models?

1.6 JUSTIFICATION OF THE STUDY

Traditional commercial banking approaches to microfinance delivery often do not work. Past attempts by commercial banks in microfinance delivery failed mainly in relation to their credit delivery methods. According to traditional commercial banking principles, the credit methodology requires documentary evidence (audited financials, projected cash flows, corporate and management profile, etc) long-standing bank-customer relationship and collateral, which most micro and small businesses do not possess.

MFIs have so far been successful due to their innovative ways of assessing credit risks of the less privileged and SMEs. Since the failure of the commercial banks was mainly due to non-customized credit methodologies applied, sustainability of these creative models/methods of credit analysis employed by MFIs is very important to prevent failure of the MFIs in this sector.

Knowing the limitations of these models/methods will provide the basis for needed recommendations to be made for improvement and sustainability, hence the relevance of this study. The following also marks further justification of this study:

- In-depth knowledge of the operations of MFIs especially in relation to credit delivery is very important for Bank of Ghana and other regulatory bodies, more so when there is no regulatory framework for the microfinance sector in Ghana.
- Information gathered will be useful to various MFIs in improving upon their current methods of credit risk assessment.

1.7 METHODOLOGY

The research used qualitative methods for information gathering. The data was collected from primary sources. The main tool of primary data collection was semi-structured interview to be held with credit managers and senior credit officers of selected MFIs. Semi-structured personal interviews were held with key personnel (credit managers and credit officers) of selected MFIs to get complete understanding of their various credit methodologies. The semi-structured interview was chosen to give the researcher the opportunity to ask follow-up questions in order to get appreciable information for quality analysis.

1.8 SCOPE OF THE STUDY

The research work was undertaken in the Kumasi metropolis. The study considered responses from selected MFIs including three savings and loans companies, one credit union and one private microfinance company.

It would have been interesting to look at the impact of the various models of credit analysis employed by the MFIs on their loan portfolio qualities as well as profitability. However the research was limited to analysis of the various models of credit analysis used by the MFIs in assessing the credit risks of SMEs.

1.9 LIMITATION OF THE STUDY

The research work had few limitations, even though, the researcher worked hard to undertake an in-depth and comprehensive study and these are stated in the following paragraphs.

Devoting enough time for the research work was a challenge, because the researcher had to combine work as a banker with the thesis writing and that was very challenging.

Some MFIs showed reluctance in availing themselves for the research work, thus making information gathering challenging. Those who made themselves available also were scarcely available due to their hectic schedules and also concealed some relevant information, because they considered them as confidential.

Locating loan SME clients was also very challenging, since disclosing that was uncomfortable for some clients and therefore the initial plan of interviewing some SMEs was discarded.

Nevertheless, the researcher creatively made time, adopted semi-structured approach to the various interviews to make the research work successful.

1.10 ORGANISATION OF THE STUDY

The research work was organized into five (5) chapters. The first chapter was the introduction to the study and it dealt with the background to the study, statement of the problem, objectives of the study, justification for the study, methodology summary, scope of the study, limitation of the study and organization of the study.

Chapter two (2) presented the theoretical framework for the research. The chapter reviewed existing literature including previous researches and thesis done in the topic area, published materials on related topics by reputable institutions and individuals, the internet, text books on finance and annual reports of selected MFIs.

The third chapter gave details of the research methodology used, the study area, size of sample and the sampling method adopted as well as the data collection techniques for the primary data collected.

In chapter four (4), the various data collected were analysed, findings were noted and interpretation and discussion of the gathered data was made.

Chapter five (5) which was the final chapter presented the summary of the findings, logical conclusions drawn and recommendations made.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter deals with the theoretical body of knowledge related to microfinance and models of credit analysis used by MFIs to assess the credit risks of SMEs in micro credit delivery.

2.2 HISTORY AND DEVELOPMENT OF MICROFINANCE

2.2.1 Microfinance Defined

The term microfinance can be described as the delivery of small scale financial products and services such as micro credit, micro savings, micro insurance, remittances and other services. In addition these products and services must provide financial benefit to poor people or people with very small to no income at all (Cabraal, et al., 2006 cited in Herfandy, et al., 2009). The Asian Development Bank (Conroy, 2003 cited in Herfandy, et al., 2009) defines microfinance as "the provision of a broad range of financial services such as deposits, loans, payment services, and insurance to poor and low income households and their micro enterprises".

Generally, microfinance encompasses the provision of financial services and the management of small amounts of money through a range of products and a system of intermediary functions that are targeted at low income clients. It includes loans, savings, insurance, transfer services and other financial products and services. *(United Nations, Concept Paper: Building Inclusive Financial Sectors to Achieve the Millennium Development Goals (United Nations, 2005).*

It can further be defined as the provision of banking services to lower income people, especially the poor and the very poor (Duflos, et al, 2006 cited in Herath, 2007). Microfinance services include granting small loans, informal appraisal of borrowers and investments, collateral substitutes, access to repeat and larger loans depending on the repayment performance, stream line loan disbursement and monitoring, secure savings products (Ledgerwood, 2000 cited in Herath, 2007). The providers of these services can be commercial banks, (private or government), licensed specialized banks, rural banks, finance companies, non-bank financial institutions, credit unions, cooperatives and NGOs.

2.2.2 How Microfinance Evolved

The microfinance sector has evolved and developed according to different patterns and growth paths in various countries and regions. Savings and credit groups that have operated for centuries include the "susus" of Ghana, "chit funds" in India, "tandas" in Mexico, "arisan" in Indonesia, "cheetu" in Sri Lanka, "tontines" in West Africa, and "pasanaku" in Bolivia, as well as numerous savings clubs and burial societies found all over the world. Formal credit and savings institutions for the poor have also been around for decades, providing customers who were traditionally neglected by commercial banks access to financial services through cooperatives and development finance institutions.

Microfinance started to gain popularity in the 1980s, even though early experiments have been done in 30 years date back in some countries like Brazil and Bangladesh (Ledgerwood, 2000 cited in Herath, 2007). In fact the history of microfinance can be dated back to Europe in 18th and 19th century. For instance, in the 18th century there were informal savings clubs like box clubs that dealt with community lending and savings.

Another famous example could be of the Irish Loans Funds which basically came into existence in consequence of increased poverty in the 1720's. In the beginning these were charitable organizations but later they transformed into financial intermediaries that allowed them to charge interest on these loans and also to collect interest bearing deposits. In 1840 about 300 such institutions emerged whose outreach covered 20 % of households in Ireland. However, due to intervention from the commercial banks, their advantage was lost and hence collapse was inevitable in the 1950s. Similarly there were other instances of micro credit in Europe mainly in Germany (Siebel, 2003).

Between the 1950s and 1970s, governments and donors focused on providing agricultural credit to small and marginal farmers, in hopes of raising productivity and incomes. These efforts to expand access to agricultural credit emphasized supply-led government interventions in the form of targeted credit through state-owned development finance institutions, or farmers' cooperatives in some cases, that received concessional loans and on-lent to customers at below-market interest rates.

2.2.3 The Challenges of Microfinance Delivery

Two major problems of development finance arose in this era of micro finance delivery. The first problem was that of getting credit funds to those who were supposed to receive them and the secondary problem consisted in finding the appropriate channels for, or distributors of credit. Evidently, finding such a channel was more complicated in cases where the idea was to make credit available really to poor borrowers. Thus, the main challenge with the micro finance delivery at the time was the structure of the supply of financial services. SMEs needed reliable sources of credit to which they can turn if the situation arose in which they needed credit. There was the need for a source from where the SMEs could obtain credit, provided they met certain reasonable requirements of creditworthiness.

In 1983, Dr. Muhamed Yunus founded the Gramean Rural Bankdue to his inspiration by the idea that the poor could use credit to improve their economic situation despite the identified challenges to offering financial services to the poor and SMEs. He made forty two (42) loans with twenty seven dollars ($27) from his pocket to stool makers in a village called Jarba in Bangladesh during a famine period in the country. Inspired by the Gramean success in the 80s, social investors and organizations around the world begun to experiment with different programs to bring financial services to the poor and SMEs.

2.2.4 The Emergence of NGOs and MFIs as Financial Intermediaries

Non-Governmental Organizations (NGOs) appeared to be a promising option for solving the financing problem faced by SMEs. They fitted neatly into the overall ideological landscape of the 1980s and the development agencies financed the NGOs and their lending activities. There were however, sufficient reasons that led to the NGOs inability to sustain their lending activities to the SMEs. They lacked the structural ability to recover the funds they disbursed as loans and thus were not able to turn them into "revolving funds" of money that could be relent over and over again to the target group. They were therefore not economically viable over the long term and their activities could not lead to structural improvement in the supply of financial services to the great mass of the population (Merton and Zeintinger, 1995).

The failure of the NGOs to offer sustainable financial services led to the need for financial institutions which were permanently oriented toward the target group and also viable over the medium-to-long term. These institutions should have the ability to recover their costs. That is, the institutions were to charge their clients prices for the services they provided which the clients could afford to pay and which were sufficient to cover the full cost of running the institutions. The institutions were also to keep their costs which they would pass on to their clients via the prices they charge as low as possible.

The three criteria; target-group orientation, cost-coverage and cost-containment were every bit as applicable in cases where organizations restrict their focus to the provision of finance to SMEs. The dual requirement that these institutions were to cover their costs and keep them as low as possible made it necessary that, after a limited transition period, they became formal banks which were subject to the full regulatory regime of national banking supervisory authorities (Merton and Zeitinger, 1995).

Given the specific problems involved in lending to SMEs, a credit technology which follows established banking practice and relies heavily on conventional forms of loan collateral and loan documents could not be employed successfully in an effort geared to reaching that target group and minimizing costs and risks. According to Merton and Zeitinger (1995), there was the need for appropriate credit technology for SMEs lending which largely eliminates the need for conventional forms of collateral which did not require balance sheets and other documents which the target groups provide.

The above prescription led to “a new view of micro enterprise finance” (Otero and Rhyne, 1994 cited in Merton and Zeitinger, 1995) ideology. In the 1990s, this new view was epitomized by a series of influential papers and books which were labeled a “financial sector perspective” (Von Pischike, 1991 cited in Merton and Zeitinger, 1995), a “commercial approach” (Jackelen and Rhyne, 1991 cited in Merton and Zeitinger, 1995) and an “institution building approach” (Krahnen and Schmidt, 1994). The various views were not a reflection of substantive differences, but rather of different aspects which were being emphasized. The three views constituted the core elements of the new type of financial institutions expected to offer tailored services to the SMEs. These core elements were a focus on institution building, a commercial approach, and a financial systems orientation.

Following the above developments, many formal financial institutions both public and private sector banks undertook “downgrading” strategies to enable them offer tailor made services to the SME segment of the market. These approaches by most banks also failed as that of the NGOs era and still left the problem of offering meaningful financial services to the SMEs unsolved. The setting up of specialized financial institutions labeled Micro Finance Institutions (MFIs) emerged strongly to serve these target groups.

We currently have several MFIs with strong presence in developing countries all over the world. These institutions are numerous with various specialized credit methodologies to serve SMEs which have been failed by the mainstream commercial banks.

2.3 STRUCTURE AND FRAMEWORK OF MFIs

Micro Finance Institutions (MFIs) are defined as financial institutions with primary objective of making credit available to that segment of the population which has been ignored by the commercial banking system for not having collateral requirements or in other words not bankable (Pollinger, et al., 2007).

It has been proven that MFIs have a great contribution in poverty alleviation as well as bringing development to the poorest areas in the world which in the long run will reduce world poverty (Conning, 1999).

There is a wide range of financial institutions, each with its own comparative advantages for microfinance services (Herfandy, et al., 2009), including,

- Formal financial institutions which comprise institutions dealing actually or potentially with SMEs and are directly regulated by national banking supervisory authorities or central banks.
- Semi-formal financial institutions which comprise, near-bank institutions lacking some criteria, e.g. equity capital, to fully qualify for bank status financial institutions and are therefore not supervised by national banking supervisory authorities or central banks. NGOs acting as financial intermediaries, operating credit windows or otherwise supporting savings and credit activities fall under this category.
- Informal financial institutions which may be, individually based and specialized such as moneylenders and deposit collectors, individually based and non-specialized such as traders, group-based and specialized such as rotating savings associations (ROSCAs) and non-rotating accumulating savings and credit associations (ASCRAS).

Together, semiformal and informal financial institutions comprise the non-formal financial sector. The non-formal sector includes savings and credit associations which are group- based informal financial intermediaries which appear to have a large development potential.

Non-formal (semi- and informal) financial institutions are in most cases local financial institutions. MFIs dealing with SMEs as customers may be government-owned or privately owned.

There are many lending models that MFIs adopt; the major ones are discussed below (Grameen Bank, April 3rd, 2009a):

- Community Banking: It is a system where it considers the whole community as one unit and accumulates enough money through various endeavors and work towards the development of the community.
- Group based: This model strives on the fact that the loan is dispersed among a group so that it builds a peer pressure and brings a sense of responsibility and cohesion among all its members.
- Individual based: This is one on one clientele handling where not only microloans is provided but also other supplementary services (education, training) so that the person is able to meet the repayment schedule.

2.4 MODELS AND CHARCTERISTICS OF MFIs AND SMEs

There are wide variety of approaches to setting up or establishing MFIs and SMEs. The different models of MFIs and SMEs and their characteristics are discussed in the following paragraphs.

2.4.1 Models and Characteristics of MFIs

Grameen Bank model

One of the most common models is simply called ”The Grameen model” and as the name indicates it is a replication of the now famous model initiated by Dr Yunus in Bangladesh.

Groups are formed on a voluntary basis and the groups consist of five members. The basic setup involves joint-liability, where all members in the group are treated as being in default if any other member in the same group fails to meet her payment obligation (Besley and Coate, 1995), and dynamic incentives which means that the borrower [or the group] is cut off from future borrowing if she fails to meet her payment installments and where bigger loans are granted over time if the previous one has been paid back in an orderly manner (Morduch, 1999).

These conditions make it paramount to choose suitable group members. Repayments are made in public, which further enhance the motive to pay installments accordingly in order not to lose face (Armendariz and Morduch, 2005). A salient feature of the Grameen model (which also happens to be prevalent among MFIs in general) is the focus on women (Conroy, 2003 cited in Herfandy et al., 2009).

Village Banks

A Village bank has two main sources of funds, the external account and the internal account. The external account represents capital provided by an external source that is lent to the members of the "bank". The internal account is made up entirely by the savings of the group members, which can also be lent to other group members. The average number of members per a group is thirty (30) to fifty (50) and the loans are repaid on a weekly basis. The objective is that the "bank" will be self-sufficient, i.e. not dependent on the external account for funding (usually within a timeframe of three years). Hence, the main difference between the Grameen model and the Village bank is the accumulation of capital in order to become autonomous from the initial source [any external] for funding. The Village bank model is common in Latin America and Africa (Conroy, 2003 cited in Herfandy et al., 2009).

A similarity to the Grameen bank model is that joint-liability applies and that no collateral is needed. With the overall objective of becoming self-sufficient savings constitutes a vital part of the Village bank structure. McIntosh et al., (2003) as cited in Berglind and Karimi, (2007) mentioned FINCA as one well-known example of a Village bank which operates in Uganda. The Village bank model (or modifications of it) is also used by NGOs, one of the more noteworthy is Pro Mujer who supports women in Bolivia which uses the savings as a basis for insurance, i.e. the savings are used to pay off the loan in times of hardship (Chua et al., 2006 cited in Berglind and Karimi, 2007).

Credit Unions

A credit union is a financial cooperative (non-profit) owned and controlled by its members with the objective of issuing loans and collecting savings. A credit union can provide some training to support the members. At a fee a credit union may be able to offer insurance against idiosyncratic risks (e.g. household specific) (Chua et al., 2006 cited in Berglind and Karimi, 2007). Credit groups have been rather successful in Asia but in other parts of the world the results have been poorer (Conroy, 2003 cited in Herfandy et al., 2009). There are also regional differences; in the case of Africa, East Africa demonstrates moderately poor results whilst West Africa is more promising (Sherief and Sharief, 2007).

Due to the structure of a credit union (only providing financial services to members) the outreach is fairly limited which is further constrained by the low capital growth. Kim et al., (2004) as cited in Berglind and Karimi, (2007) add the perspective that credit unions are savings-driven while many other MFIs are credit driven and also acknowledge that the members usually share a common bond, e.g. profession, religion etc.

Self-help Groups (SHG)

Self-help groups are popular in India due to the fact that they are easy to set up within the legal framework in the country (Krishnan, 2006). A SHG uses the savings of the members (usually about 20 members) as the basis for lending (Conroy, 2003 cited in Herfandy et al., 2009). However, the SHG can also turn to external sources for funding in order to increase the capital base. It is common for SHGs to be linked to NGOs where the NGOs can support the SHG by serving as an intermediary to a wide range of other social functions which could be health related, education related etc or by helping the SHG to bring in external capital (Krishnan, 2006). SHGs set their own interest rates based on the members' decision on what an appropriate rate should be.

Other Models within the Ghanaian Financial Industry

Several models of MFIs exist within the Ghanaian Financial Industry. Savings and Loans Companies, Rural Banks, Private owned Financial Services Companies, Credit Unions and “Susu” Groups are examples of the variety of MFIs that exist in Ghana. The Savings and Loans and Rural Banks are directly regulated by Bank of Ghana, but the others are not. The various MFIs in the Ghanaian industry demonstrate all the characteristics explained above.

2.4.2 Characteristics of SMEs

SMEs differ from larger businesses in many important aspects, which need to be clearly understood and considered in their credit analysis. The main differences concern the role of the owner-manager, the legal form, the intertwined family and business finances, and the type and scope of financial service and particular credit demand of such businesses (Balke, 2005).

SMEs are mostly privately owned, by a limited number of owners, often members of one family. Often these owners have strong say in the daily business operations and act as owner-managers (Kley, 2003). Many SMEs practically operate as sole proprietorships or partnerships, even though some register as limited liability companies. There is no differentiation between private and business finances. The business owner has to come up with his wealth for business liabilities. In other words, legally and accounting wise, there is no clear-cut distinction between the business and the owner and his family.

Also for non-public limited liability companies the distinction between the business and private financial affairs tend to be blurred. This is a consequence of the owner-manager aspect. In essence also in limited companies the financial wellbeing of the owner impacts on the firm and vice versa. Owners can and do inject additional capital into their enterprise when needed (and available) but also extract it vice versa for private purposes. As a result, the credit analysis of SMEs must not focus on business analysis alone. Socio-economic aspects of the owner-mangers have to be integrated into the analysis (Balke, 2005).

Again compared to larger businesses, SMEs require a limited scope of simpler financial services; mainly account management, credits and sometimes international payment transfers. They also request small credit amounts. This makes single loans relatively costly to process and to manage. Lending profitably therefore requires building up portfolios of relatively large numbers of single loans at low operating costs.

Another important feature of SMEs is their limited access to capital markets and to external funding. Alternative funding sources are normally private capital from current owners, and operating cash flow of the business. Therefore, credit analysis of SMEs should emphasize cash flow analysis.

In summary, SMEs share features of a low margin mass product. This and the comparatively simpler structure of SMEs and their requested credits provide the necessity and opportunities to standardize the credit analysis models applied in assessing their credit risks.

2.5 MICROFINANCING IN GHANA

Microfinance has been a known concept in Ghana in the form of "susu" for a very long time. People have always practiced saving and/or taking small loans from individuals and groups within the context of self help in order to engage in small businesses or farming activities. Anecdotal evidence shows that the first credit union in Africa was established by the Canadian Catholic missionaries in 1955 in the Northern Region of Ghana. One of the commonest and current microfinance schemes in Ghana is the "Susu", which is thought to have originated from Nigeria and spread to Ghana in the early 1900s (Asiama and Osei, 2007).

The various financial sector policies and programmes such as the provision of subsidized credits, establishment of rural and community banks (RCBs), the liberalization of the financial sector and the promulgation of PNDC Law 328 of 1991 allowed the establishment of different types of non-bank financial institutions (NBFIs), including savings and loans companies, finance houses, and credit unions etc., had led to the smooth growth and evolvement of the microfinance sector to its current state. A working paper on "A Note on Microfinance in Ghana" from the research department of Bank of Ghana (BOG) categorized the MFIs in Ghana into three broad types including:

- Formal suppliers of microfinance (i.e. rural and community banks, savings and loans companies, commercial banks)
- Semi-formal suppliers of microfinance (i.e. credit unions, financial non-governmental organizations (FNGOs), and cooperatives)
- Informal suppliers of microfinance (e.g. susu collectors and clubs, rotating and accumulating savings and credit associations (ROSCAs and ASCAs), traders, moneylenders and other individuals).

The formal financial institutions are incorporated under the Companies Code 1963 (Act 179), which gives them legal identities as limited liability companies, and subsequently licensed by the BOG under either the Banking Act, 2004 (Act 673) or the Non-Bank Financial Institutions Act, 2008 (Act 774) to provide financial services under BOG regulation.

The semi-formal institutions are formally registered, but are not licensed by the Bank of Ghana. NGOs are incorporated as companies limited by guarantee (not for profit) under the company's code. They are not licensed to take deposits from the public and hence have to use external (usually donor) funds for micro credit. Credit Unions (CUs) are registered by the Department of Cooperatives as cooperative thrift societies that can accept deposits from and give loans to their members only. Even though credit unions are included in the NBFI Law, BOG has allowed the apex body Ghana Cooperative Credit Union Association (GCCUA) to continue to regulate the societies pending the introduction of a new Credit Union Law.

The informal institutions are the least regulated by BOG. Moneylenders are supposed to be licensed by the police under Moneylenders Ordinance 1957.

With reference to the lists of registered financial institutions as at June 2009 posted at the BOG website, the Ghanaian financial industry consists of twenty six (26) Commercial Banks with universal licenses, one hundred and thirty five (135) Rural Banks and forty five (45) Non-Bank Financial Institutions (NBFIs). The NBFIs include nineteen (19) finance houses, eighteen (18) savings and loans companies, one (1) mortgage finance company and seven (7) leasing and finance companies. By virtue of the universal license of the banks, most of them are equally into microfinance delivery.

The above shows that delivery of microfinance in Ghana is rightly situated in a much regulated and robust financial system. However, several of the microfinance suppliers are in the semi-formal and informal segments. Statistical data on the number in these segments is not readily available and therefore limited the researcher's ability to have complete list of all microfinance suppliers in the country.

2.6 EMPIRICAL MODELS OF CREDIT ANALYSIS

Banks employ statistical models in credit analysis to improve the control of the "human factor" in credit decisions. The application of statistical models to credit analysis certainly lowers discretion and improves objectivity in credit decisions.

Credit Analysis refers to the process of deciding whether or not to extend credit to a particular customer. It usually involves two (2) steps: gathering relevant information and determining creditworthiness (Ross et al., 2008). Literature and practice are rich in models and approaches for credit assessment, both for individual and business loans.

2.6.1 The 5Cs Model

One popular approach, which is applied for both broad groups of credit, is the "5C's Model". Under this approach different components, which determine the credit risk of a borrower, are analyzed, weighted off against each other and used to make a final credit decision. The five "C's" are Character, Capacity, Capital, Conditions and Collateral (Balke, 2005).

Character assessment implies that a lender has to ensure that the borrower is a trustworthy and reliable person who honours his obligations. That is, his or her willingness to meet credit obligations. The following traits may be used to analyse and predict this trustworthiness:

- Degree, to which the borrower honoured past obligations, be it credit obligations or other financial obligations (payment of other regular bills).
- Marital and family status.
- Employment history.
- Steadiness in terms of residency.
- Reputation, i.e. by references from employees, business partners, other banks, etc.

Capacity refers to the customer's ability to meet credit obligations out of operating cash flows. The analysis of the repayment capacity of a borrower covers various aspects, which can be analyzed to differing degrees of intensity. For individuals the repayment capacity depends on an analysis of their regular income and expenses. The customer's extraordinary items, as well as the overall indebtedness of the household, the stability of work, income development and socio-economic trends, which affect the household's available income must be considered. Usually, the maximum part of income, which can be pledged for loan service, is defined by the laws of respective countries and a lender must see to it not to let total loan service exceed this part. For businesses, analysis of the repayment capacity rests primarily on a cash flow analysis, and a determination to what extent the operating cash flow of a project and/or the business covers the loan service.

Capital refers to the financial reserve of the customer. This part covers the analysis of the borrower's business model and the typical financial statements, balance sheet, profit and loss accounts etc. Liquidity, Solvency, Profitability, Business Development and Efficiency are typical aspects of this analysis. Analysis is done, prospectively and retrospectively and in the form of ratio and qualitative analysis.

Condition refers to the general economic conditions in the customer's line of business. The external environment and its changes may affect the borrower and his repayment capacity during the life time of a loan. It would also need to be examined in conjunction with the loan decision.

Collateral is the secondary source of repayment, which is pledged by the borrower for the lender to fall on in case he or she is unable to repay the loan per the agreed terms for one reason or the other. Acceptable collateral should cover the loan amount plus any due interest and other claims which the lender might have towards the borrower in case of loan defaults. The quality of collateral (in particular steadiness of value, access and ability to liquidate) has an effect on the credit decision, in particular on loan size and terms.

2.6.2 Credit Rating Models

Another approach is the application of credit rating models. Under this, a rating model assigns a credit to a certain group of risk. Balke (2005) explained that a rating model has five or more different risk groups, such as "A" (good), "B" (standard), "C" (substandard), "D" (doubtful) and "E" (loss), to which a certain degree of credit risk is assigned. Here credits in group "A" would be the best possible credit risk, whereas credits in group "E" would be credit failures. Credit risk is analysed by looking at several components, i.e. solvency, liquidity, sensitivity to market risk, management etc. (component rating) which are then combined to a single rating (composite rating). Each component rests on the analysis of quantitative and qualitative factors.

CAMELS Model

A well known rating model developed in the United States (US) is the CAMELS-Model. Each letter of the CAMELS stands for a different aspect of the risk. This is illustrated as follows (Balke, 2005):

- C stands for Capital and Capital Adequacy.
- A stands for Asset composition and quality.
- M stands for strategic and operating management.
- E stands for quality, structure and size of earning.
- L stands for liquidity
- S stands for sensitivity to market risk in particular interest rate and foreign exchange risks.

Each of these risk components are analysed through ratio and qualitative analysis. Various components then receive component rating ranging from "A" to "E", which are later combined to a similar composite rating.

2.6.3 Credit Scoring Model

Credit Scoring is also another available option for credit analysis. It refers to the process of quantifying the probability of default when granting consumer credit. A credit scoring system typically looks at quantitative and qualitative characteristics of a potential borrower and assigns, depending on the degree, to which the borrower's characteristics meet certain benchmarks, and scores for the fulfillment of a single characteristic. A scoring model normally computes ten to fifteen different characteristics. The single scores are then summed up to achieve a combined score. If the combined score exceeds a pre-defined combined score (i.e. "cut-off score"), the model suggests, that the borrower is a "good credit risk", and that the credit should be extended, and vice versa for "bad credit risks". A particular successful application is for credit cards (Liu, 2003 cited in Balke, 2005).

2.6.4 Risk – Adjusted Return on Capital (RAROC)

According to Leraci, (2007), RAROC is a risk-adjusted profitability measurement and management framework for measuring risk-adjusted financial performance and for providing a constant view of profitability across business. Many Financial Institutions have adopted some variant of a RAROC model in their loan adjudication and performance measurement processes.

RAROC is used to accept or reject decisions, loan pricing, structuring (i.e. collateral coverage), compare profitability across business segments and compensation of business units. The RAROC equation is expressed below (Leraci, 2007):

$$\textbf{RAROC} = \frac{\text{Total Revenue – Overhead - Expected Loss - Taxes}}{\text{Marginal Credit Capital}}$$

where,

Time Horizen = One year forward estimate of profitability

Total Revenue = Expected 1^{st} yr Spread Revenue + Upfront Fees

Overhead = Non-Interest Expense (fixed charge applied per segment)

Expected Loss = Obligor PD * Facility LGD * Loan Exposure

Taxes = Jurisdiction specific tax payable on loan income

Marginal Credit Capital = 1^{st} yr credit capital based on one factor VaR model (similiar to Basel II)

Measurement of credit risk of businesses with RAROC model involves the following process. The first step is the loan officer in conjunction with internal credit analysis group to estimate the likelihood of default. This estimation process for commercial credits is based on a proprietary credit rating model in which a loan is assigned one of six credit ratings. The second step in the process is to estimate the bank's exposure given default. This involves estimating the outstandings associated with a line of credit given a default (usage tends to increase immediately prior to a default). Exposure estimates vary with the type of credit and initial credit rating and are based on historical data. The next step in the process is to estimate the severity of loss given default. This estimate is based on the collateral type and is again based on historical data. Given this information the expected loss is simply the default probability multiplied by the exposure and the severity of loss (Leraci, 2007).

2.6.5 Alfman's Z-Score

The Alfman's Z-Score means a statistical measure that quantifies the distance (measured in the standard deviations) a data point is from the mean of the data set. In more financial sense, Z-score is the output from a credit-strength test that gauges the likelihood of bankruptcy (Altman, 1993 cited in Balke, 2005).

The application of empirical credit assessment models is thought of having three major advantages. It shall help to reduce, in particular for fairly standard credit decisions the respective transaction costs, improve the accuracy and quality of credit decision and to make them more objective and less reliant on the human factor.

2.7 THE CHALLENGE OF MARKET IMPERFECTION AND CREDIT RISK

Most industries suffer from some market imperfections and market failures, which can cause inefficiency and difficulties for the economic agents concerned. Information asymmetry and agency problems are often referred to in modern economic theory as common problems faced by economic agents acting on a certain market.

Information asymmetry is an inequity in information that arises in a transaction where one party often does not know enough about the other party to make accurate decisions. (Mishkin, 1998). Lack of information creates problems in the financial system on two fronts: before the transaction is entered into (adverse selection) and after (moral hazard).

In lending, information asymmetry rises from the fact that banks do not have sufficient information regarding the riskiness of the clients' investment projects. This induces them to set an interest rate at a high level to compensate for the risk of not knowing which investor is "risky" and which is "safe". The high interest rate has the tendency to drive the safe investors out of the credit market, and the ones left may be the most risky investors (Armendariz and Morduch, 2005).

Adverse selection is a problem created by asymmetric information before the transaction occurs. It occurs when the potential borrowers who are the most likely to produce an undesirable outcome (the bad credit risks) are the ones who most actively seek out a loan and are the thus most likely to be selected (Mishkin, 1998).

Morduch (1999) illustrates how this happens with the following example: consider two individuals, one risky and one safe, who need to borrow one unit of capital each to make an investment. The risky type will have a lower probability of earning a profit than the safe investor, but his or her profits will be higher than the safe investor's in the case of success. Due to information asymmetry, the bank will not be able to observe the different characteristics of the investors but only know the fraction of safe and risky investors in the market. This might lead to the bank deciding not to lend to either of the potential borrowers or may lend to the "wrong" borrower.

Moral hazard on the other hand is the problem created by asymmetric information after the transaction occurs. It refers to the risk that the borrower might engage in activities that are undesirable from the lender's point of view, because they make it less likely that the loan will be paid back (Mishkin, 1998).

According to Armendariz and Morduch (2005), the theory of moral hazards refers to the possibility of a person being less concerned about negative consequences of undertaking a risk as a result of having some form of insurance. The problem may arise when individuals or institutions do not alone bear the full risk of a transaction and therefore will not act as carefully as they would if that was the case.

Armendariz and Morduch (2005) further explained that moral hazards in lending refer to situations where lenders cannot observe borrowers actions or even the realization of project returns, and generally the problem can be separated into two types: ex ante moral hazard and ex post moral hazard.

Ex ante moral hazard includes the actions or efforts taken by the borrower, which are unobservable to the lender, that are taking place after the loan has been granted and paid out, but before the returns of the investment or project have been realized. The idea is that these actions may affect the probability of profitable returns on the investment being made. When a borrower has obtained a loan he or she can either make an effort or take actions that will lead to positive returns and thereby make a profit, or can choose not to devote time and effort at all and may or may not make a profit depending on the outcome. This is of importance since the loan will remain unpaid and the bank will make a loss if the borrower does not put in any effort and the outcome is no positive returns on the project (Armendariz, and Morduch 2005).

Ex post moral hazard refers to problems that arise after the borrower has received the loan, made the investment and after the project or investment returns have been realized. Even if the returns are positive, the borrower may “take the money and run” due to the fact that the lender does not know how large the borrower’s profits are. In other words, the borrower can report a loss although the investment has been successful and keep the profit without repaying the loan (and by doing so he or she might face sanctions from the lender as a result of the default) (Armendariz and Morduch, 2005).

These market imperfections have proven to be hard to overcome in developing countries and as mentioned earlier, attempts of mainstream commercial banks to serve the microfinance clientele in the past have been unsuccessful (Armendariz and Morduch, 2005). Due to the general attitude of SMEs not keeping proper records, the difficulty in getting the relevant information for credit decision making is very high. They are therefore considered highly risky reducing the mainstream commercial banks desire to extend credit to them. Risk management, especially credit risk must be well done to ensure quality loan portfolio by MFIs.

Risk Management is the identification, assessment, and prioritization of risk followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events. Risks could come from accidents, natural causes, disasters and also deliberate attacks from foreign forces (Hubbard and Douglas, 2009). However, this research talks about microfinance and thus risk management has to be looked at from the perspective of businesses.
Risk management is the technique for measuring, monitoring and controlling the financial and operational risks which would be further broken down into market risks, credit risks or liquidity risks.

Credit risk refers to the risk arising because borrowers may default in repaying a loan granted to them. This must be properly identified and well managed in order for the MFIs to have quality loan portfolios which lead to sustainable profitability. This can be better achieved by doing quality credit analysis to ascertain the real capacity and willingness of a potential borrower. MFIs must therefore have credit risks assessment models that are specific to the type of clientele they deal with in order to achieve quality.

CHAPTER THREE
METHODOLOGY

3.1 INTRODUCTION

This chapter indicates the overall strategy that was used by the researcher in doing the research. It discusses the various methods used in the collection of data meant for the research work.

The methodology of this research work like any other research work is essential in order to ensure reliability, validity and generalization of the research results. It further gives details about the research design, research instruments, population, sampling techniques and data collection method used.

3.2 RESEARCH DESIGN

The research design of this project was a survey which sought to assess credit analysis models used by Micro Financial Institutions to assess the credit risk of clients. The researcher used a qualitative approach to collect data needed. In-depth semi-structured interviews were used to gather extensive data from management and credit staff of the selected MFIs.

The qualitative approach was adopted because the research findings could not be represented numerically and therefore a quantitative approach which is more of a scientific exploration of events that can be represented numerically would not be appropriate.

3.3 RESEARCH INSTRUMENT

The instrument chosen for the collection of the needed data was face-to-face in-depth and semi-structured interviews. The researcher met face-to-face with management and credit staff of the selected MFIs and interviewed them to explore the various methods of analysis they use in analysing the credit risks of their clients.

The above research instrument was adopted because of the exploratory nature of the research topic. Credit analysis is both a science and an art and therefore, further probe of the answers provided by the interviewees helped the researcher to better understand the various methodologies employed by the MFIs. Additionally, most of the interview questions were open-ended. The order and logic of questioning also had to be varied, since the context and approach of the various MFIs were different. In some situations the Managing Director of the institution had to be interviewed to have deeper and needed understanding of their method of credit analysis whereas meeting Credit Officers in some MFIs were enough to have full information.

The researcher had in mind data quality issues such as reliability, forms of bias, and validity and generalization that could arise regarding the research instrument chosen. To mitigate the impact of the above noted issues on the research outcome, proper prior planning was done by the researcher before each interview section and appropriate locations at the discretion of the interviewees were chosen. All interviews took place in the offices of the interviewees as agreed with them.

The researcher made notes relating to the data obtained for appropriate analysis in chapter four (4).

3.4 THE POPULATION

The target population of the study was credit and management staff of ProCredit Savings and Loans Company Limited, First Allied Savings and Loans Limited, Women's' World Banking Ghana, St. Peter's Credit Union and Multi-Trust Financial Services.

Information for this study was collected and integrated from two primary sources of participants. The first group of participants was management staff of the selected MFIs which included the Head of Credit and/or Managing Director of some of the selected MFIs. The second group of interviewees was credit officers of the selected MFIs.

3.5 THE SAMPLE

The researcher took into consideration the need to make inferences from the sample of the population when designing the research work. A sample of fifteen (15) respondents comprising of five (5) management staff and ten (10) credit staff from the selected financial institutions were considered for the survey. The MFIs considered for the research were ProCredit Savings and Loans Company Limited, Women World Banking Ghana, First Allied Savings and Loans Limited, Saint Peters Credit Union and Multi Trust Financial Services.

The above choice was due to the fact that, relevant information regarding the credit assessment models could only be given by the institutions themselves. Interviewing both management and credit staff would confirm whether the expected methodologies by the financial institutions were those employed practically or modified in practice.

3.6 DATA ANALYSIS METHOD

Data display and analysis approach which is an inductively-based analytical procedure was used in analysing the data collected. The data collected was summarized and simplified with focus on the main issues regarding the credit analysis methods. The data was then organized and assembled into a diagrammatic network. The data display in a diagrammatic network helped the researcher to recognize relationships and patterns in the data as well as drawing relevant conclusions during the analysis in chapter four (4).

3.7 PROFILE OF MFIs

3.7.1 PROCREDIT SAVINGS AND LOANS COMPANY LIMITED

ProCredit Savings and Loans Company Limited (ProCredit SLC) is part of the ProCredit group, which is led by the Frankfurt-based parent company ProCredit Holding. ProCredit Holding is the majority owner of ProCredit SLC and holds 93.01% of the shares. The group has physical presence in twenty (22) countries across three (3) continents, namely Eastern Europe, Latin America and Africa.

ProCredit SLC was founded in July 2002 as Sikaman Savings and Loans Company by an alliance of international development-oriented investors. Their goal was to establish a new kind of financial institution that would serve the demand of small and very small businesses in a socially responsible way. The primary aim was not short-term profit maximization but rather to deepen the financial sector and contribute to long-term economic development while also achieving a sustainable return on investment.

This is manifested in the company's mission statement: "*ProCredit is a development-oriented financial institution. We offer excellent customer service and a wide range of banking products. In our credit operations, we focus on lending to very small, small and* *medium-sized enterprises, as we are convinced that these businesses create the largest number of jobs and make a vital contribution to the economies in which they operate. Unlike other banks, our institution does not promote consumer loans. Instead we focus on responsible banking, by building a savings culture and long-term partnership with our customers.*

Our shareholders expect a sustainable return on investment, but are not primarily interested in short-term profit maximization. We invest extensively in the training of our staff in order to create an enjoyable and efficient working atmosphere, and to provide the friendliest and most competent service possible for our customers."

Currently ProCredit SLC has twenty six (26) branches made up of nineteen (19) mainstream branches, four (4) outlets and three (3) business centres in Greater Accra, Ashanti, Brong Ahafo, Central and Western Regions of Ghana. ProCredit's loan portfolio stood at 13,674 in numbers and 31,870,000 in volume at the end of October 2010.

3.7.2 WOMEN WORLD BANKING GHANA

The Women World Banking is a network of affiliate organizations in 40 countries, centred in New York, which works to train, assist, and lend credit to low-income women entrepreneurs all around the world. The bank was born based on a presentation by a team from Ghana during the UN conference on Women in Mexico in 1975.

The Women World Banking Ghana started operation in 1998 initially as an NGO which trained women on how to manage their business and on basic business record keeping. The NGO also guaranteed women entrepreneurs to take loans from local banks to support their businesses. A "susu" operation (i.e. thrift deposit mobilization) through which contributors obtained finance for their operations was also introduced. In 1996 the institution became regulated under the Central Bank of Ghana as a deposit taking and loan granting financial organization.

The major shareholders are Data Bank Financial Services Group (A reputable Ghanaian financial services company) with 45% shareholding and Africap Micro Finance Fund (an international Microfinance company) with 30% shareholding. The remaining 25% shares are held by various Ghanaian individuals. Women's World Banking Ghana is an affiliate of Women's World Banking worldwide.

3.7.3 FIRST ALLIED SAVINGS AND LOANS LIMITED

First Allied Savings and Loans Limited (FASL) was incorporated as a private limited liability company on May 24, 1995 under the Ghana Companies Code, 1963 (Act 179). The Institution was granted an operating license by the Bank of Ghana under the Non-Bank Financial Institutions (NBFI) Law (PNDCL 328) of 1993 on March 27, 1996 to accept deposits from the public and provide credit services to businesses and consumers. FASL commenced official business on September 25, 1996 after it had received a certificate to commence business on June 5, 1996.

FASL's authorized business is to carry on savings and loan services. The Institution was established purposely to engage in micro-financing activities through the mobilization of savings from the retail public – mainly households and small business enterprises – and the provision of credit largely to its target group (micro and small businesses).

The Institution has been reaching out to its customers through its branches, agency and a “distance banking” concept. The Institution has been able to position itself as the leader in the savings and loans business through the provision of quality products and the delivery of efficient services to its targeted customers.

FASL currently has fourteen branches; in Ashanti (6), Eastern (2), Brong Ahafo (3), Greater Accra (3) and Western Region (1).

3.7.4 ST PETER’S CREDIT UNION

St Peter’s credit union was established on 29th January, 1969 in the Catholic Church in Kumasi by Knights and Ladies of St John International with ten (10) members. After one year, members of Knights and Ladies group could not sustain the society. It was however given to the church to manage. Rev. Father Bishop Sarpong encouraged other church members to join.

The union with a membership of four hundred and fifty (450) got affiliated to Credit Union Association (CUA) in 1992. The union reorganized in 1992 and registered with CUA on 16th May, 1998 with a membership of eight hundred and sixty-one (861). St Peter’s acquired its offices (kiosk) with a staff of eight (8). The kiosk was abandoned in the year 2000 and new offices acquired. Membership increased to two thousand, five hundred (2,500) in 2002. The union acquired its own accommodation and started using the premises on 22nd January, 2007 with a membership of over eight thousand (8,000).

A branch was opened at Suame in 2005 to serve customers in and around the industrial catchment area. It could not stand the test of time and seized to function as a branch since January 2007.

At the end of June 2007, its total assets amounted to four million, four hundred and ten thousand, one hundred and twelve Ghana cedis, seventy-four pesewas (GH¢4,410,112.74). By 30th June 2008, it increased to four million, eight hundred thousand, nine hundred and sixteen Ghana cedis, ninety-nine pesewas (GH¢4,800,916.99). Its total assets as at 30th June, 2009 stood at four million eight hundred and ninety-seven thousand, ninety-one Ghana cedis, seventy-four pesewas (GH¢ 4,897,091.74). Credit unions financial year is from 1st July to 30th June the following year.

St Peter's credit union is one of the leading credit unions in Ashanti region. Staff strength is sixteen (16) of which ten are males and six females. Total membership as at 28th February, 2010 was about ten thousand, six hundred (10,600). Only about three thousand, nine hundred (3,900) of the total membership, representing about thirty-six point eight percent (36.8%) are active.

3.7.5 MULTI TRUST FINANCIAL SERVICES

Multi Trust Financial Services is a brain child of Mrs. Regina Kumi, the current Chief Executive Officer (CEO) of the company. Mrs. Kumi worked with KD Accounting Services as Officer in charge of data processing and manager of the accounts of Unilever Ghana Limited.

KD Accounting Services established a microfinance institution by name KDA Microfin Financial Services where Mrs. Kumi worked as a Credit Officer, an Administrator and later on became the Manager. KDA Microfin Financial Services was into lending activities in communities to groups and individuals.

The vision to set up Multi Trust Financial Services co-existed in agreement as partnership with KDA Microfin Financial Services. Multi Trust Financial Services separated in principle in 2003 when it was incorporated and duly registered as a corporate body under the Companies Code 1963.

Multi Trust Financial Services became operational in 2004/2005 and fully independent with the assistance of the husband and some few relatives of Mrs. Kumi who invested in the company. The main ambition of Multi Trust Financial Services is to provide credit facilities to people (groups and individuals) who cannot have access to credit in the formal financial service sector in professional, caring, responsive and profitable manner.

Multi Trust Financial Services holds a vision to help people to make good use of their God given potentials to improve their financial and social lives. The Institution's services include group, individual, outstation and market based lending and currently has four branches in Brekum, Sunyani, Kumasi and Accra with a customer base of about six hundred (600).

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 INTRODUCTION

The credit assessment methods as presented by the selected Micro Finance Institutions were analysed and the findings discussed in this chapter. Management and credit staff of ProCredit Savings and Loans Company Limited, First Allied Savings and Loans Limited, Women World Banking Ghana, St. Peter's Credit Union and Multi – Trust Financial Services were interviewed and the outcomes/findings are presented below.

4.2 CREDIT ASSESSMENT METHODS

4.2.1 ProCredit Savings and Loans Company Limited

Lending Philosophy

ProCredit SLC believes in having simple, fast and reliable Products and Services and therefore focuses on high processing efficiency in order to have maximum customer satisfaction. The company target customers are Small and Medium Enterprises (SMEs) with a minimum period of six (6) months in business and have permanent business and residential addresses.

The credit strategy of ProCredit focuses on straightforward, understandable product design, no compulsory savings, no group loans, only individual loans and low-barrier access criteria *(credit provided to a broad range of small enterprises (men and women, traders, service providers and producers, etc.)*

ProCredit's Credit Technology does not rely purely on collateral as exists in Conventional Banking Technologies, which seek to offset risks by securing loans with high-value assets. ProCredit attempts to overcome the risks that emanates from asymmetric distribution of information by using methods of analysis specifically designed for SMEs lending. The objective is to assess both a borrower's financial capacity and his or her personal willingness to fulfill a credit obligation.

Credit Analysis Process

An applicant's capacity-to-repay a credit obligation is measured on the basis of the current cash flow of the economic unit. The economic unit considered consists of both the enterprise as well as the client's private household, inextricably linked to it. The credit analysis takes into account both the business and the household unit including any other regular financial links to third parties. By calculating the cash flow of the economic unit, the loan officer is able to determine the appropriate credit amount and installment. The repayment capacity is calculated on the basis of current rather than projected cash flow. Therefore, when examining the projected cash flow of the business, the surplus generated by the credit is not taken into account for the analysis. In fact, the purpose of credit sales is irrelevant to the calculation of repayment capacity.

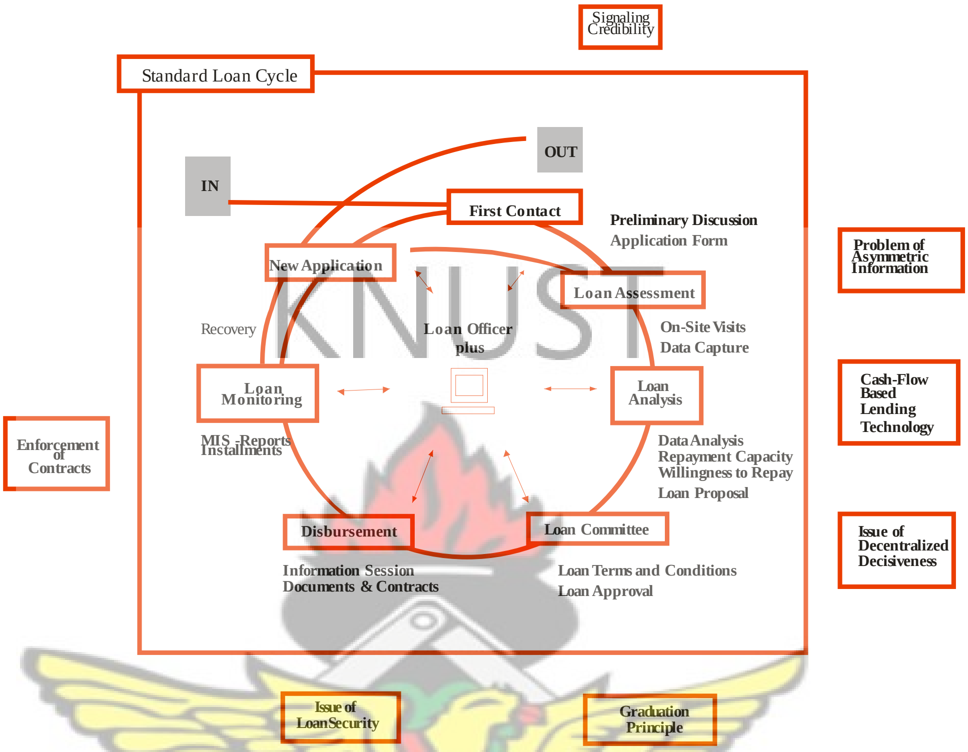
When analysing the willingness-to-repay, ProCredit's objective is to estimate the risk posed by a client who has sufficient financial capacity to repay, nevertheless defaults on payments or, more commonly, gets into the habit of paying installments late. ProCredit loan officers adopt a qualitative approach to assessing the personal characteristics of the client and, above all, the degree of honesty and responsibility these clients demonstrate through their interaction with the loan officer. A key indicator of willingness-to-repay is whether these clients generally meet their business or social obligations on time.

Two complementary methods are employed in the analysis methods. These are On Site Analysis and Analysis of Credit History.

On site Analysis: The loan officer visits the client at the business premises and gathers all financial and miscellaneous business information. Subsequent to the on-site visit to the client's business, the loan officer will visit the client at his or her private home to gather all relevant socio-economic data concerning the family, living conditions etc. A standardised interview technique is employed for data collection, allowing loan officers to gather in-depth information regarding the economic unit in a short period of time, thus making efficient use of the available resources.

Analysis of credit history: For repeated loan clients who have already demonstrated to ProCredit their willingness and capacity-to-repay, past repayment performance becomes an important indicator of future repayment. Because all credit transactions are recorded in the IT system, the client's full credit history can be accessed, with the system providing information on previous loan applications, loans, and repayment performance (including any late payments or arrears). In the long-term, for clients who have already taken out several repeat loans and have exhibited good repayment performance, the credit history can even partly be substitute for the loan officer's individual on-site analysis, thus, enhancing institutional efficiency and decreasing the analysis costs and risks associated with repeat credits. For new clients, references are made with suppliers and analysis of the client's payment behavior in relations to utility bills etc is also used.

The credit analysis process is represented in the diagram below:



Source: Credit Manual of ProCredit SLC Ltd

Collateral Requirements

The clients of ProCredit generally do not possess conventional collateral (like registered goods or landed property) and therefore most loans are secured with other collateral substitutes (like non-registered household goods, inventories, fixed assets and other valuables) and personal guarantees. This provides sufficient scope to impose reasonable loan security requirements that can be modified to suit the individual client. The collateral substitutes and guarantees serve a twofold purpose: on the one hand, they are a means of applying psychological pressure on the client, thus, reinforcing the incentive to repay punctually and on the other hand, if the borrower fails to repay, the foreclosure on this collateral and subsequent sale can offset to an extent, the institution's loss. All loan security accepted by ProCredit comprises of at least the following two components: collateral items in the possession of the client, such as durable goods from the household and/or chattel items from the business, as well as a personal guarantee by a third party.

4.2.2 Women World Banking Ghana

Lending Philosophy

Women World Banking offers several loan products to all SMEs mainly trade customers. Even though the institution's name may give indication of potential bias towards women per the name, the products are accessible by both gender without any special focus on women.

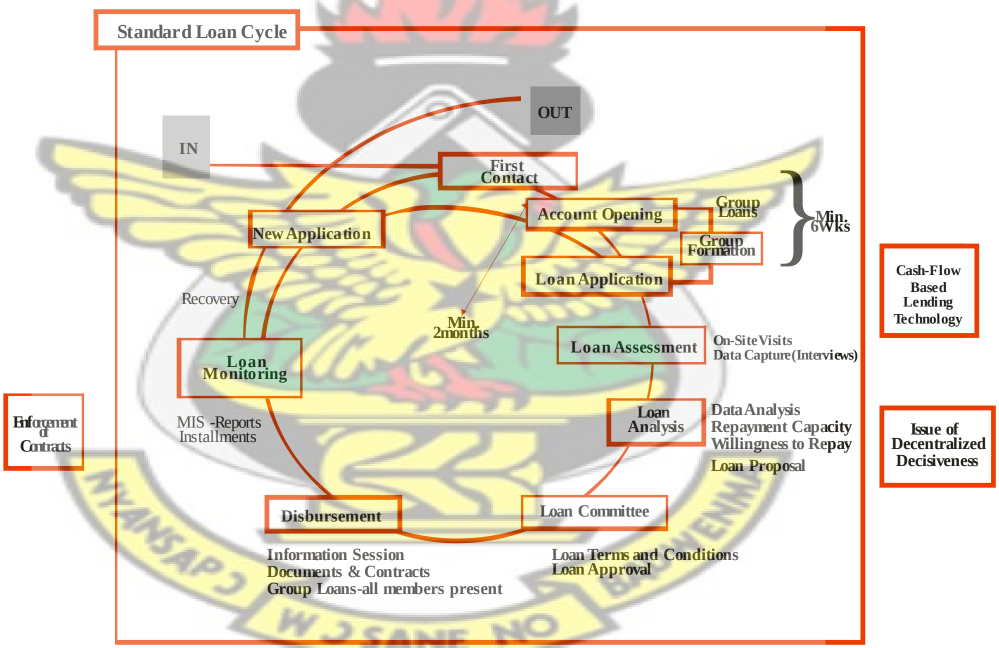
The company is into both individual and group loans with their way of analysis similar to that of ProCredit with very few differences. All customers need to have an active account for a minimum of two (2) months as pre-requisite for individual loans and six (6) weeks as a pre-requisite for group loans.

Credit Analysis Process

The analysis involves visit to the business and residence of the applicant, gather relevant information and summarise that into a simple income statement that considers only cash inflows as revenue and a balance sheet for decision making. Up to about 50% to 60% of the estimated net profit is considered as the maximum installment payable and therefore projected over the duration or maturity of the loan to establish the amount to approve taking into account the interest payable. This analysis is presented to a credit committee with an approving authority which approves an amount for the client.

The group loans follow the same procedure. Individual members of the group are subjected to the same process of analysis as individual clients go through. Disbursement of loans is done into the accounts of individual members and repayment expected to be made by individuals into their accounts. A group has a minimum of three (3) and a maximum of five (5) members which may belong to a parent group of a maximum of one hundred (100) members.

The credit analysis process is presented in the diagram below:



Source: Researcher's own model

Collateral Requirement

Each Individual loan client provides an independent guarantor in addition to collateral (same type as that of ProCredit). Group loan clients jointly and severally guarantee for each other. Both the individual and group clients make available 25% of the loan amount granted as cash collateral in a guarantee fund in addition to collateral provided.

4.2.3 First Allied Savings and Loans Limited (FASL)

Lending Philosophy

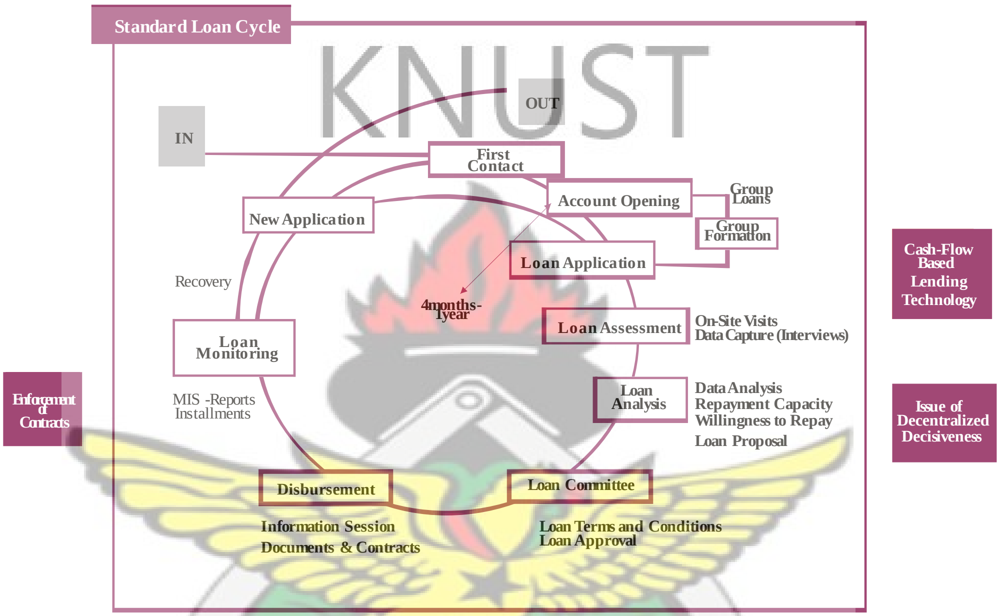
First Allied Savings and Loans Limited have several credit products for individual based lending and also engage in group lending. The lending technology of FASL requires that clients must actively operate their accounts with the institution before qualifying for loans. The minimum period required to run the accounts is four (4) months and the maximum is one (1) year. The turnover trends in a client's account forms an integral part of the credit analysis.

Credit Analysis Process

The Credit Officer uses a special interview technique to gather financial data for analysis. Clients provide information on daily sales and expenses through interview by the credit officer. The sales are projected and compared with the turnover trends in the client's account. The activeness of the client's account operation provides evidence for deciding on realistic sales. This is used to prepare a simple cash flow to establish client's financial capacity. The credit officer visits the client's business and residence and includes call reports for direction to both places.

The group lending structure allows loans to be granted to groups of four (4) to five (5) members who jointly guarantee for each other. Disbursement is made on the same day with all members of the group witnessing how much each group member was given. The group leader is responsible for collection of the installments for further payment to the credit officer. It is also a community based lending, where the credit officer attends the group meetings and pay frequent visits to group members.

The credit analysis process is represented in the diagram below:



Source: Researcher's own model

Collateral Requirement

For all individual loans that fall in the category of micro loans and group loans, guarantors are used as collateral substitutes. According to the respondent, micro loans are amounts below GHS20, 000 (twenty thousand Ghana cedis). In addition, up to about 25% of the loan could be used as cash collateral saved in a guarantee fund. Other personal assets like vehicles *(not necessarily comprehensively insured)* are also accepted as collateral for loans above GHS20,000. It must also be noted that clients who have landed properties with the requisite registration are accepted for higher amounts.

The respondent stated that, since the analysis is weak in with regards to the level of financial data gathered, they focus a lot of attention on monitoring which makes recovery effective.

4.2.4 St. Peter's Credit Union

Lending Philosophy

The credit products of St. Peter's Credit Union's are accessible by only registered members of the credit union. Compulsory savings of at least nine (9) times in a year with a minimum amount per savings of GHS10 (ten Ghana cedis) is a basic requirement for a member to qualify for any type of loan.

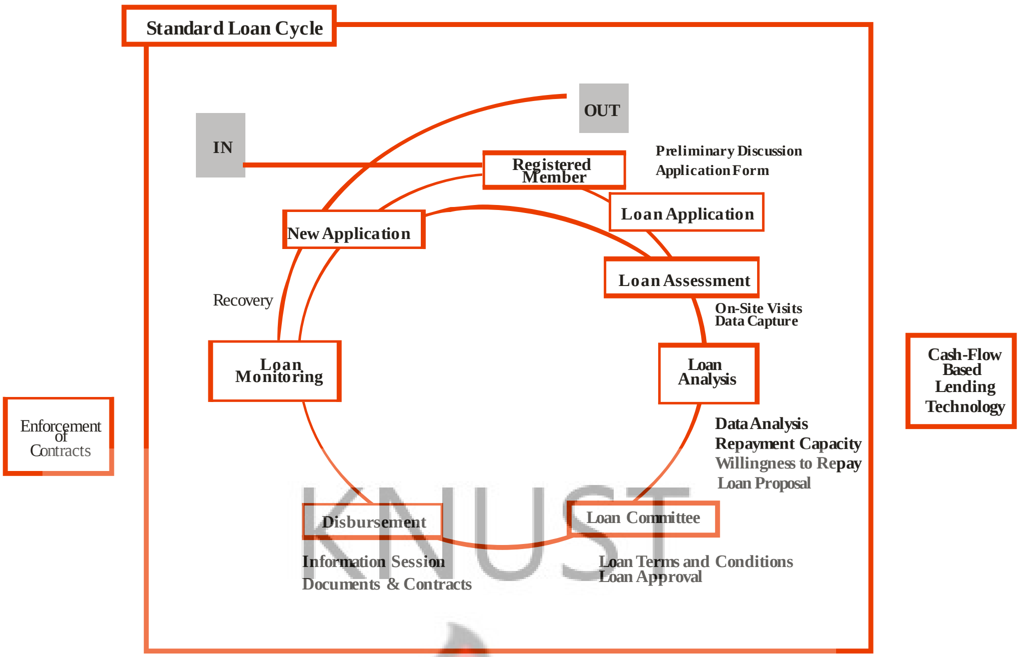
The Union is into both individual and group lending with two categories of groupings in relation to amount. The two groupings are loans within amount of money saved by the member and loans above amount of money saved by the member. Even though the Union has no set maximum limit of amount that can be granted as loan, the highest amount it had granted to an individual at the time of the interview was GHS50,000 (Fifty Thousand Ghana Cedis).

Credit Analysis Process

According to the officer interviewed, the Union employs the five (5) "C's" model in the analysis and assessment of the credit risk of the credit applicants. The five (5) "C's" model refers to analysis which is done in the line of Character, Capacity, Capital, Conditions and Collateral *(Refer to details of the 5C's model in chapter two).* For loans within amount saved by the member, no analysis is done before loan is granted, because the amount saved fully secures the loan amount. Thus analysis is only done when the amount requested is above the total amount saved by the member.

The credit analysis involves visit to both the applicant's business and residence for onsite analysis. The Credit Officer gathers information in relation to daily or weekly turnover and expenses which is projected to monthly. A maximum of 50% of the estimated net profit is considered as the ceiling for the highest installment payable by the applicant. The amount to be granted is proposed based on estimated installment payable by the applicant. A call report for the direction to the applicant's residence is included in the financial report summary for approval.

The credit analysis process is represented in the diagram below:



Source: Researcher's own model

Collateral Requirement

Even though, the five (5) "C's" model is used in analysing the credit risks of credit applicants, no collateral is taken. The clients do not provide any collateral to secure the loans granted, neither do they provide guarantors. This gives the Union a high exposure to possible loan loss.

4.2.5 Multi – Trust Financial Services

Lending Philosophy

The target customers of Multi – Trust Financial Services are SMEs in commerce or trade. Customers who are into manufacturing or production and road or building construction (mainly contractors) are scarcely considered. The reason according to the Managing Director (MD) was that, the payment schedule is structured in equal weekly, bi-weekly or monthly installments which should make sense with the regularity of cash inflows of the business being considered. The businesses noted above widely have irregular cash inflows and therefore pose a lot of challenges when it comes to prompt payment of loan installments.

The Company is engaged in both group and individual lending. The group lending is tagged Community Based Lending and it is provided in selected communities. The Company after locating a particular community for group lending organizes training for potential clients and then encourages them to form groups in order to assess the loans. The individual applicants in the group are analysed on the basis of their individual capacity to pay back. The total of the individual amounts culminate into the group's amount approved.

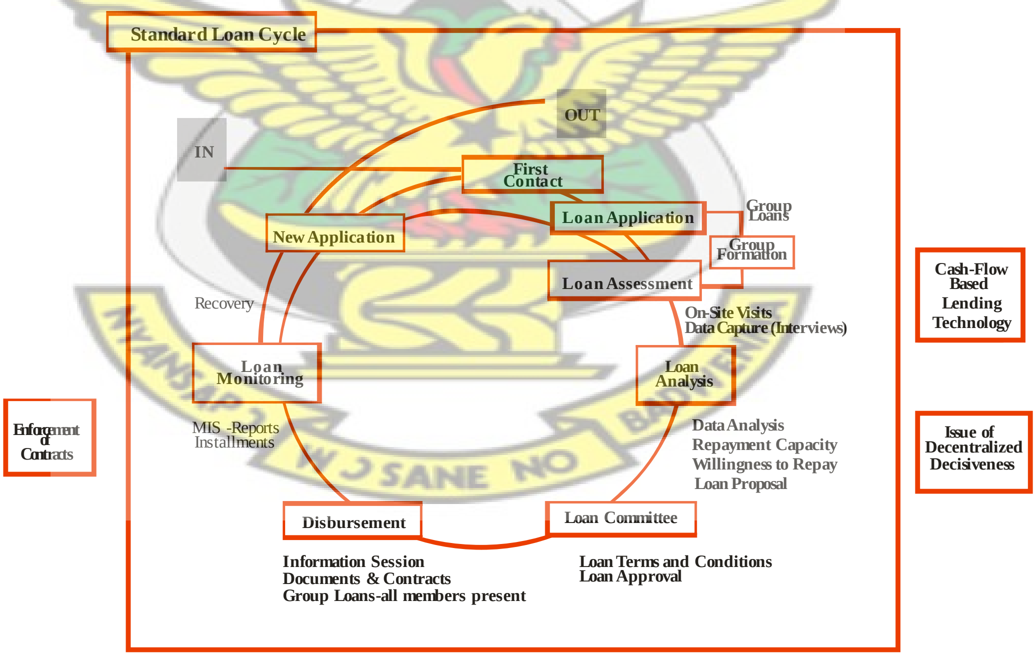
Credit Analysis Process

An applicant provides his or her personal information and then the credit officer follows up with a visit to the client's business premises to gather more relevant financial data for analysis. The credit officer completes a market survey form with the information gathered on the field. The residence of the applicant is also visited by the credit officer to have an alternative place of locating the client should there be the need and as well cross check family stability.

If per the analysis of the business the credit officer establishes that the applicant qualifies to be granted the loan, he or she does a presentation to a Loan Approval Committee for approval. Loan amount approved is based on the estimated net profit. The MD reviews the decision of the Loan Approval Committee in most cases. For repeat clients, re-analysis is done only for increased amounts, but clients requesting the same amount as previous and had also demonstrated good payment behaviour, are instantly granted the new loan.

The same procedure is applied in analysing each individual in a group for the group lending. Specific loan amounts are approved for individuals within a group based on their financial capacities. The amounts are disbursed to the individual in the presence of each other member of the group, but the group is responsible for monitoring and recovery. A group numbers between five (5) to twelve (12) and the payment plan is weekly normally collected by the group leader who then pays to the responsible credit officer. Each member in the group receives a separate repayment schedule.

The credit analysis process is represented in the diagram below:



Source: Researcher's own model

Collateral Requirement

Various forms of collateral are accepted by the institution ranging from vehicles, landed properties, tenancy right and/or stock for the individual loans. Guarantors are also required for each loan granted, but does not apply to the group loans, members guarantee for each other. In the case of landed property which is taken for higher amounts, it is not mortgaged, but affidavit is sworn by the client authorizing the company to sell his or her property in case of default without recourse to court *(this has been very challenging to implement, even though they still use it).* No collateral is taken for the group loans.

Multi – Trust Financial Services is not a deposit taking institution and therefore clients do not operate any savings with the institution.

4.3 ANALYSIS AND DISCUSSION

From the above, the credit analysis methods employed by the MFIs were similar with very few differences. All of them according to their responses go through the process of information gathering, analysis and decision making, and monitoring and recovery.

The information gathering process required more effort from the MFIs as opposed to the traditional banks who are provided with audited financial statements by their clients. Most of the target clients of the MFIs do not have good/complete records for the deduction of relevant information needed for informed credit analysis. The MFIs therefore train their Loan Officers to use interview technique to get the required information for analysis. Most of the MFIs gather the information on the field (at the business premises of the client) as they observe transactions and other relevant indicators for quick cross check of the data collected. All the MFIs responded that they visit the residence of the client as well and complete their records with call reports giving direction to the client's residence.

The credit officers of the MFIs prepare simple cash flow statements and in some cases, profit and loss (P & L) accounts and balance sheets for decision making. The sales estimated includes cash and recovered credit sales. Credit sales which are yet to be recovered are not considered as sales for the income statement. Hence, their income statements for decision making are more of cash flow and that reduces the risk of over estimating the financial capacity of the customers. The Credit Union does not do any analysis for loans within the applicant's saved amount.

It was also realized that the MFIs do not depend on projected cash flow statements as is done in the traditional commercial banks. Some of the MFIs considered the family unit as the economic unit and therefore included household expenses in the total expenditure of the applicant. The use of financial ratios for the decision making was virtually absent due to limited information on clients' transactions. Use of qualitative information gathered mainly by seeking reference on client's personality or character was a key component of the analysis.

Clients provide guarantors as collateral substitutes and in some cases, the guarantors are provided in addition to other personal assets used as collateral. The acceptable guarantors are normally people who are deemed to have some psychological influence over the client. Those accessing the group loans are required to provide guarantors, because they jointly and severally guarantee for each other.

The MFIs also accepted collateral substitutes like household items *(sitting room furniture, Television sets, refrigerators, etc)*, stock, business premises tenancy rights and other personal valuables *(vehicles)*. It must be noted that the MFIs as well take landed properties as collateral for higher loan amounts depending on the institution's credit policy. It was further found out that cash deposited in a non interest yielding fund by clients served as a collateral substitute. The deposit is paid back to the client after successful repayment of the loan. MFIs only paid interest on cash deposited as collateral, if the client has it as an investment in the form of fixed term deposit and any other investment account.

It was further found out that the MFIs use the "Graduation Principle" as a dynamic incentive to clients which minimizes the risk of non-payment. The "Graduation Principle" was explained as a system where clients with good repayment behaviour qualify for relatively higher amount for subsequent loans at a relatively lower interest rate. Some MFIs use a simplified analysis and more flexible collateral or substitutes for their repeat clients. For example the percentage of loan that could be used as cash collateral could be reduced drastically and in some instances scrapped.

The MFIs use frequent and regular payment schedules to mitigate the risk of bad or non-payment of loans. The frequent and regular payment schedules enable the MFIs to secure payments and thus reduce their risk of exposure.

The monitoring and recovery mechanisms of the MFIs identified were stiffer compared to that of the traditional commercial banks. Religious and strict monitoring of loans disbursed keeps the MFIs consistently updated on the developments in the client's business. This gives the MFIs ability to act promptly and timely to deal with risky developments that could negatively affect expected payments of loan installments.

From the findings above, the MFIs employ innovative ways of assessing the credit risks of the SMEs to which they grant loans. Irrespective of the specific methodologies used by the MFIs, all of them go through information gathering, analysis of financial data, and monitoring and recovery of disbursed loans.

The innovative methodologies employed by the MFIs closely compare with the "5Cs Model". All the MFIs had specialized approaches to analysing the capacity of clients to repay the loans granted them, the character, the capital, the conditions of clients business and the collateral needed by clients to secure their loans.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The final chapter relates to the findings of the study. Summary of the findings of the study, the conclusion with reference to findings and recommendations for the study was presented here.

5.2 SUMMARY

The lending structure used by MFIs demonstrated a number of mechanisms that helped to manage information and credit risk in a way that led to higher repayment rates as compared to traditional commercial banks offering credit services to SMEs. One of the major features of MFIs innovative methods identified from the research was the use of group lending by which the concept of joint-liability helps to mitigate problems caused by adverse selection and moral hazard. This is due to peer monitoring and peer selection which exist in group lending.

Other important mechanisms identified in the Credit Methodologies of the MFIs besides group lending were in-depth analysis of the individual as an economic unit, the use of dynamic incentives, collateral substitutes, and regular repayment schedules. These mechanisms were identified to play significant role in contributing to mitigating credit risks and improving repayment rate of loan clients.

Group Lending was used by all the MFIs interviewed with the exception of ProCredit SLC Ltd. The interdependence between borrowers created by group lending contributes significantly to minimizing credit risk of clients. The attributes of group lending, for instance joint liability mitigate problems created by adverse selection and moral hazards through mechanisms such as peer selection and peer monitoring.

Adverse selection may lead to driving safe borrowers out of the credit market, leaving only risky borrowers and as a result inflicting larger costs on the credit institutions. Group lending through **Peer Selection** helped the MFIs to keep safe borrowers in the market since it provides incentives for similar borrowers to form groups. It was also realized that group lending has the advantage of inducing borrowers to avoid risks that will lead to negative consequences for the MFI's profitability.

As mentioned earlier, since the MFIs have imperfect information on borrowers' characteristics and the nature of their investments (risky or safe), moral hazard has always been a concern. The main point of **Peer Monitoring** is that by using the possibility of neighbours and group members to monitor each other, group lending leads to overcoming, or at least mitigating problems arising from market imperfections such as moral hazard.

Besides the benefits resulting from the structure of group lending it was also identified that using the borrowers' social assets creates possibilities of further enhancement of the performance of group lending. This is done partly by letting the group impose so called *social sanctions* on defaulting fellow group members. The social penalties of a member not being able to repay his or her share were identified to be in the form of bad reputation and loss of trust among fellow group members. The consequence was that the delinquent borrower normally found it difficult to get partners that would be willing to co-sign for future loans. For the impact of social sanctions to be effective in mitigating credit risks, groups were formed to contain social ties and relations between borrowers since these were helpful according to the MFIs. These were accomplished by forming the groups in small communities where social relations among individuals were likely to exist. By delegating the responsibility of imposing penalties to fellow group members, the MFIs benefit from questionable methods without having to do it themselves.

Considering the individual as an **economic unit** which extends the analysis to include the family and other third party expenses of the applicant was broadly used by the MFIs. Here most MFIs did not limit the estimation of the client's expenditure to only business expenses. Through qualitative analysis which was done by using special interview technique and referencing to know other expenses and income of the client, the MFIs were able to estimate close to exact the net cash flow of the client. This broad way of assessing the client helped the MFIs to cross checking the stability of the client and how responsible he or she could be.

Dynamic incentives, which some MFIs called "Graduation Principle" was another mechanism used by MFIs to mitigate credit risks. Dynamic incentives consisted of a threat and an opportunity: the threat of being cut off from future loans and the opportunity of borrowing increasingly larger amounts. The design was identified to encourage a long-term relationship between borrower and the MFIs. Both the "threat" and the "opportunity" induce the borrowers to choose their fellow group members carefully. They were applied to both group lending and individual-based lending. Dynamic incentives have been used within the formal bank sector throughout history, but were found out to be more prominently used by the MFIs. It must be noted that this possibility provided opportunity, but was not necessarily a must for the clients, since some borrowers did not have relevant need for additional and/or larger loans.

Collateral substitutes refer to other types of items acceptable by the MFIs other than the type of collateral demanded by the traditional commercial banks. The use of collateral substitutes was a common feature of MFIs in their credit analysis and decision making. It included compulsory savings up to a percentage of the loan granted, personal belongings with low market value, vehicles with third party insurance, non-insured stock etc.

Collateral substitutes serve as a means to secure repayment since collateral, regardless of the form, by its very nature pose an incentive to repay the debt. The MFIs explained that the psychological impact on the client was more valuable and therefore they always consider items that the client attached more importance and interest.

MFIs used **Regular Repayment Schedules** where repayment starts only a few weeks after the loan had been disbursed, and then occur on a weekly or monthly basis. These regular repayment schedules helped to screen out prospective delinquent borrowers at an early stage and also provided group members with early warnings of potential future problems. This was also very effective in the individual loans, because it helped the MFIs to identify early warning signs and then take appropriate steps to get hold of the clients' cash flow before it was totally consumed.

5.3 CONCLUSION

The objective of the study was to identify and analyse the various models of credit analysis used by MFIs in assessing the credit risks of SMEs and making credit decisions. It specifically sought to analyse the strengths and limitations of the identified models/methods used by MFIs, identify how the MFIs had being mitigating the impact of the identified weaknesses/limitations of the various models/methods and make recommendations.

The critical significance of credit analysis is to ensure that the right amounts of loans are granted to clients with the financial capacity and willingness to repay. High repayment rate is one of the good indicators that the credit assessment methods employed are leading to the right credit decisions.

The common use of group lending by MFIs addressed agency problems such as adverse selection and moral hazard. The high repayment performance identified indicates good credit decisions by MFIs demonstrating that the innovative mechanisms adopted by the MFIs were suitably productive.

One of the mistakes that the traditional banking sector made during the early attempts to offer microfinance was to use the same collateral based method they applied in assessing bigger clients. The existence of collateral increases the confidence of commercial banks and there by limits their efforts in stringent screening activities. This approach fell short, because concrete collateral is virtually absent in microfinance. This was identified to be something that group lending and its key feature of joint liability had been able to handle with great success. Peer monitoring and peer selection served as innate components to screen and evaluate both borrowers and projects, hence joint liability was inherently a significant contributor in good credit decisions.

Dynamic incentives which were applicable for both group and individual lending had several important functions: costs reducing since screening and monitoring activities were carried out by the borrowers and the possibility of being granted larger loans over time served as a strong motivation for a person with few credit alternatives to repay the loan. An even stronger motivation was the threat of being cut off entirely from future benefit of acquiring loans.

Frequent and regular repayment schedule required that the borrowers have a reliable source of income since the credit analysis methods employed did not take projected cash flows into consideration. The MFIs frequent or regular repayment schedules enabled them to secure payments and by doing so reduced their risk exposure.

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Collateral substitutes offered the MFIs a great opportunity to serving the SME and informal sector, but it however increased their risk exposure. The cash collateral for example was beneficial to both the lender and the borrower: the lender got insurance or security and the borrower was induced to save. It could however be argued that the borrower should be paid interest on the forced or compulsory savings into the guarantee fund. In the normal savings arrangement, the borrower should pay some interest on moneys given to him by a lender. The MFI in keeping the client’s money becomes a borrower and must therefore pay some interest, but this is an intricate case since the savings are derived from a loan and hence the lender should not have to pay interest on the disbursed loan. Logic cannot be matched with fairness in this particular case.

Key among the various steps in the credit analysis methods of the MFIs was the non-use of projections and uncompromising strict monitoring which was religiously followed. It portrayed the MFIs as strict and fair lender to potential clients. This to a large extent enabled the MFIs to recover most of the loans they grant which is the primary reason for assessing the credit risk of loan applicants. The main difference identified between the MFIs approach and that of the mainstream traditional banks was the comparatively higher reliance on qualitative information and adherence to a very strict and rigorous monitoring and recovery scheme by the MFIs.

One of the key features also identified was Pre-loan Training for potential clients for group loans. Training in credit and cash flow management was necessary to equip clients on the technicalities of credit handling, administration and responsibilities attached to credit given. The training aimed to schooling the clients through the MFI's procedures on repayment, savings and risks so as to prepare the clients adequately for better repayment behaviour. The pre-loan training was good both for the MFIs and the clients. It was good for the client to get an insight on how the procedures of micro-finance work before they get the real loan. Knowing the procedure on repayment also helped the clients to get prepared and know how to plan well for the loan.

From the research, the MFIs gathered most of the information needed for the analysis themselves which limited the risk of manipulation by clients to give a picture that could qualify them for a desired loan amount. However, the information was received in a raw state which the credit officer had to reprocess into a meaningful financial report for decision making. This was really time consuming and comparatively costly. This influenced the relatively high interest rates charged by the MFIs according to the interviewees *(the researcher did not analyse the cost implication of the various credit methodologies applied).*

In conclusion, the major findings of this thesis can be summarized as follows:

The MFIs were able address the problem with lack of information on their prospective borrowers with the use of program designs based on a group model which helped to reduces the financial and credit risks and shifts the monitoring costs to the borrowers.

The use of joint-liability, dynamic incentives and social sanctions which are key features of group lending induced the borrowers to not only monitor their group members but also support each other (although social sanctions have a more punitive nature). Both collateral substitutes and regular repayment schedules served as insurance for the lender, which reduced overall risk and had positive effect on the repayment performance of the clients of the MFIs

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The consideration of the applicant as an economic unit and extending the credit analysis to its third party expenses was very effective. This broadened the cost net of the client being analysed and assured the analyst of establishing realistic financial capacity of the client. One of the major differences between the efforts carried out in the past by the formal bank sector and the approach by MFIs was the strong use of qualitative data in the credit decision making.

5.4 RECOMMENDATIONS

From the above findings, the following are recommended by the researcher:

The MFIs should consider the introduction of incentive schemes to encourage clients to progressively keep records for analysis of future loans. This could help reduce the high cost related methods of information gathering currently being applied by the MFIs, since such records would provide more factual data. The MFIs could then reduce their loan officer to clients' ratio to reduce cost.

It is further recommended that MFIs set up research department to evaluate the impact of their credit methodologies and also properly document the credit appraisal methods they employ. This would help reduce the level of subjectivity in the credit decision making which is quite evident in their appraisal methodologies.

Further to help reduce the level of subjectivity in the credit decision making of the MFIs, it is recommended that the MFIs should consider adopting a hybrid model of the empirical models and the innovative models they use. This would lead to the possibility of teaching such hybrid models as specialized models of credit appraisal for microfinance.

It is plausible that training the clients in business issues such as management, marketing, cash flow management, book keeping etc. could help improve clients' level of appreciation of the importance of record keeping. It is therefore recommended that the MFIs should design training programmes to help equip the clients to be more organized and keep good records.

The MFIs could also consider forming an association and contribute to the establishment a credit bureau company owned by the MFIs. The company would collate, manage and provide relevant data on bad loan clients to the MFIs which will improve credit decision making.

The use of influential people as guarantors and considering good collaterals as items with strong psychological attachments from clients should be continued by the MFIs. This was identified as major inherent motivators for good loan repayment by the SMEs.

Overall, more empirical research in this area is needed in order to further develop microfinance delivery in Ghana.

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