RELATIONSHIP BETWEEN CREDIT MODELS USED BY MICROFINANCE INSTITUTIONS IN KENYA AND THE ATTAINMENT OF OUTREACH

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RESEARCH PROJECT

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A RESEARCH PAPER PRESENTED IN PARTIAL FULLFILMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTERS DEGREE IN BUSINESS ADMINISTRATION OF THE FACULTY OF COMMERCE, UNIVERSITY OF NAIROBI.

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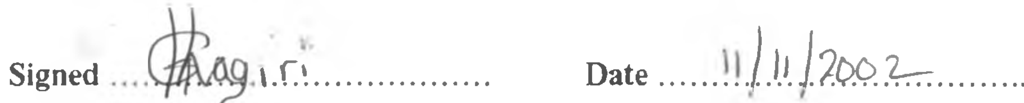
DECLARATION

I, **Magiri Karimi Gyneth**, hereby declare that this project is my original work and has not been presented for a degree in any other University.



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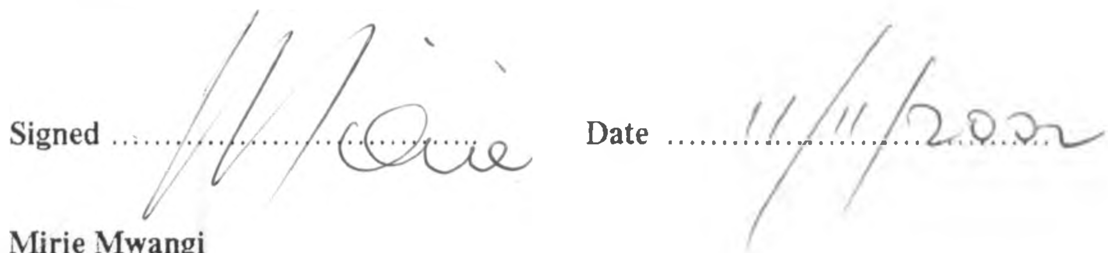
This project has been submitted for examination with my approval as University Supervisor.



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DEDICATION

This work is dedication to

MUM & DAD

The architects of my very being for:

- Your unconditional, unfaltering and selfless love;
- Your infectious enthusiasm;
- Your moral and material support tat made my academic dream come true

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AND ALL HONOUR AND GLORY TO GOD WHO HAS SEEN ME THROUGH THE PROGRAMME. I AM FOREVER YOUR DEBTOR. AMEN.

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ABSTRACT

The main objective of this study is to fill the gap in the knowledge of what credit models MFIs in Kenya are using and what is the level of outreach achieved by these MFIs.

Majority of the MFIs in Kenya use group-based lending to deliver financial services to their clients and only a few especially those run by commercial banks use individual lending approach. The group-based lenders are able to reach more people in low-income brackets because they rely on group guarantees as opposed to the individual lenders who mainly rely on tangible securities, which the poor can not afford. The clientele of MfIs is usually made up of women from densely populated urban areas, in low-income bracket. Voluntary savings are not common among the MFIs in Kenya. However, most of the MFIs do mobilise compulsory savings to act as insurance for the money rendered. Loan terms are short averaging about one year and the amount of loan advanced to clients are quite small with frequent repayment and high interest rates but the effects of interest rate on the number of borrowers is low.

In conclusion, the MFIs that use group-based lending, group-guarantees, high frequency of repayment, relatively small loan size and short loan terms are able to achieve a greater scale of outreach and deeper depth of outreach than those using individual lending, tangible collaterals, low frequency of repayment, big loan sizes and long loan terms.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Financial intermediation is of great importance in any economy. In fact, in the Kenya's Poverty Reduction Strategy Paper (PRSP), the financial sector is expected to play a catalytic role in facilitating economic growth through financial intermediation. Financial intermediaries assist in:

- transfer of economic resources through time and geographical location;
- mobilization of savings;
- provision of payment system for exchange of goods and services;
- management of risk, among other things (Yeager 1989:10).

However, these financial services are inaccessible to the majority of people, especially in the developing countries. In Kenya for instance, since the mid-2001 the main banks have increased their minimum deposits for savings accounts. Standard chartered Bank for example, requires a minimum deposit of Kshs 5,000, Barclays Bank Kshs 10,000, Kenya Commercial Bank Kshs 3,000, Co-operative Bank Kshs 6,000. These amounts are not affordable to more than 50% of the Kenya's population, where about 53% and 49% of rural and urban population, respectively, suffers absolute poverty (GOK, June 2001).

To bridge this gap, Microfinance Institutions (MFIs) have come up to serve the financial services needs of those who have been consistently underserved by financial institutions (Hulme 1990: 13).

Microfinance refers to provision of financial services to low-income clients, including the self-employed (Ledgerwood 1999: 1). Financial services generally include savings and credit but some micro finance organizations also provide insurance and payment services.

Microfinance institutions became prominent between 1980 and 1996 when the poor were seen as mostly female micro entrepreneurs with no assets to pledge (Paxton 1998: 2). New lending approaches, collectively referred to as microfinance, began to emerge, primarily among registered non governmental organizations (NGOs) or banks with special charters such as the Grameen Bank in Bangladesh, Bancosol in Bolivia and the village bank of Rakyat Indonesia (World Bank 2001: 75). These institutions now commonly referred to as Microfinance Institutions, concentrated on lending small amounts of money to individuals and groups using basic loan appraisal techniques and a variety of special techniques to motivate repayments. They recognized that despite the lack of collateral, the poor were capable of repaying loans if provided with the appropriate incentives such as access to additional loans at a pre-determined date. The timeliness of loans and consistency in the availability of credit was more important to borrowers than the interest rate they paid (McGuire 1998 and Berenbach 1997)

It will be noted that, when micro finance first emerged as a development tool, both donors and practitioners focused on the cumulative amount of loans disbursed, with no concern on how well the loans suited borrower needs and little concern about whether or not loans are repaid (Robert 1988: 10).

Donors were rewarded for disbursing funds, and practitioners for on-lending those funds to as many people (preferably women) as possible. Neither was particularly accountable for the long-term sustainability of the microfinance institution or for the long-term effect on borrowers or beneficiaries (Ledgerwood 1999: 5).

Now that the field of microfinance is more mature, it is becoming clear that effective, efficient and sustainable institutions are needed to provide financial services well suited to the demands of low-income clients. Both donors and practitioners are beginning to be held accountable for results. The focus is no longer solely on quantity-on the amount disbursed-but on the quality of operations as measured by the outreach the firms achieve and the financial sustainability (Paxton 1998: 5).

The goals of MFIs as development organizations is to provide financial services to the un-served as a means of meeting development objectives such as, to reduce poverty, to empower women and to create employment (Pischke 1991: 222). To continue meeting these development objectives, MFIs must keep in mind, in their decision making process, the two long-term objectives of microfinance: outreach, serving those who have been consistently underserved by financial institutions (such as women, the poor, and indigenous and rural populations), and sustainability, generating enough revenue to cover the costs of providing financial services. To achieve these objectives MFIs need to diversify their portfolio so as to reduce the risks associated with investing in only one security, be efficient and effective as this will increase their profit margins as the costs of operations are checked, and maintain a good interest margin since this will determine the amount of interest revenue an MFI is able to raise from its loan portfolio and hence the financial sustainability and the ability to reach a good number of clients (Webster 1996: 40).

The largest source of risk for any financial institution is found in its loan portfolio. Not only is the loan portfolio by far the largest asset of an MFI, the quality of that asset and therefore the risk it poses to the institution, can be difficult to measure (Robert 1998: 15). For microfinance institutions, whose loans are typically not backed by bankable collateral, the quality of portfolio is absolutely crucial. MFIs need to screen their clients well and put in place good monitoring mechanisms, to ensure loan repayment and hence sustainability and good outreach.

Credit model is the design adopted by a financial institution to deliver credit facilities to its clients (Yunus 1983: 12). The credit model adopted by a MFI will determine the interest rates charged on loans, the way clients are screened and monitored, and the way delinquents are managed. This then means that credit model will also affect sustainability and outreach.

In the early 1997, the Women's World Banking (WWB) team developed a summary of key measures of success in micro finance and the key operational actions a MFI needs to achieve this success. WWB had prepared questionnaires asking WWB affiliates and other microfinance leaders which factors they judged to be of highest importance. Almost all the 90 participating MFIs from Africa, Asia, Latin America and Europe considered good credit models coupled with competent, productive and committed credit staff as one of the five elements of highest priority in success of MFIs. The other four were: strong leadership in the board and /or management; clear mission, vision and principles that guide and motivate the organization; effective relationship between institution and its clients; and lastly the management and staff treated as productive resources, with effective measures to build people capabilities and knowledge. (Women's World Banking 2001). Therefore, it seems that the credit model chosen by a MFI has some effects on its attainment of outreach and sustainability objectives.

Indicators of outreach are relatively simple to collect, readily available and provide a good measure of the scale of outreach and good proxies for depth of outreach, which gives an indication of the extent to which an MFI has been able to achieve its objectives. Indicators of sustainability (such as repayment rate), although more informative in terms of MFI's performance, are not readily available because MFIs are not willing to disclose such information to the public.

This study therefore focuses on the relationship between credit models used by MFIs in Kenya and the MFIs' attainment of the objective of outreach.

1.2 Statement of the problem

Microfinance activities based on best practices play an important role in providing the poor with access to financial services through creation of sustainable institutions. However there have been many more failures than successes because of the following:

- unlike their formal counterparts, such as commercial banks and development financial institution, MFIs explicitly target the poor. This group has no physical collateral to offer for the loans extended;

- MFIs lend to the rural poor in a credit market characterized by imperfect information and weak contract enforcement. The targeted group may not have savings accounts and may not have borrowed before; as such it is difficult to gauge their creditworthiness. In addition, enforcing the repayment of loan through the legal system is not only difficult but may also be economically unviable;
- some MFIs target a segment of population that has no access to business opportunities because of lack of markets, inputs and demand. Productive credit is of no use to such people without other inputs;
- many MFIs never reach the break-even point or the efficiency necessary to cover the operational costs;
- some MFIs fail to manage their funds adequately to meet future cash needs and as a result, they face a liquidity problems (Ledgerwood 1999:4).

Ultimately, most of the dilemmas and problems encountered in microfinance have to do with how to meet the financial services needs of those who have been consistently underserved by financial institutions (such as women, the poor and indigenous and rural populations) while at the same time maintaining financial sustainability.

In their effort to achieve sustainability and outreach, MFIs have applied many credit models. The success of the Grameen Bank of Bangladesh, for example, can partly be attributed to its group-based lending credit model which ensures repayment through peer pressure and substantial outreach through self-selection of group members (Yunus 1983: 10). The project Ikhtiar in Malaysia is another microfinance programme that has successfully replicated the Grameen Bank lending model and its record of loan recovery has been as high as that of the Grameen Bank of about 98% (Khandker 1995: 58 & 87).

In Kenya, only a few MFIs have a good documentation of the credit models that they use. Further the relationship, if any, between the credit models that the MFIs are using and the outreach that they are able to achieve has not been investigated.

Ledgerwood (1999) in his book "Microfinance Handbook" has outlined the various

approaches used by MFIs to deliver credit facilities to their clients. McGuire (1997:123) in his paper "Microfinance in the Pacific Island countries" outlines how the MFIs in the region can develop credit models systematically to maximize outreach. However, to the best knowledge of the researcher, there is no study that has been carried out in Kenya on the relationship between the credit models used by MFIs and their attainment of outreach.

This study therefore intends to investigate the credit models used by MFIs in Kenya, and try to establish whether there is any relationship between the credit models applied and outreach.

This study seeks to address the following research questions:

- What are the credit models used by MFIs in Kenya?
- What is the relationship, if any, between the credit models used and outreach achieved?

1.3 Objectives of the study

The study pursues the following major objectives:

- To find out the credit models used by MFIs in Kenya.
- To determine the relationship between MFIs' outreach and credit models.
- To determine the most appropriate credit model that would ensure optimum outreach.

1.4 Importance of the study

The results of this study will be of benefit to the following:

- The MFIs in Kenya who will recognize the importance of selecting appropriate credit models in increasing outreach, ensuring sustainability, increasing programme cost- effectiveness and improving programme design.
- The donors who will be able to assess the performance of the MFIs by comparing programmes to ensure effective use of donor funds and measuring client-level impact. Donors will also be able to identify market constraints and interventions, track market development, and also the 'best practices' (Katherine 2000).

- The scholars, as the study is expected to stimulate further research in this area of credit models among the MFIs and how they relate to the MFIs' performance.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

The Kenyan microfinance industry is one of the oldest and most established in Africa. Interest in the microfinance sector in Kenya, started as far back as the early 1970's after the seminar International Labour Organization (ILO) report on employment was issued in Kenya in 1972 (Hulme 1999: 2). This report for the first time identified the informal sector as a potentially important contributor to employment and economic growth in Kenya and other developing countries. Microfinance Institutions were seen as the organizations that could fulfill the financial service needs of the sector.

Webster (1996: 40), summarized the major objectives of MFIs into three namely: to create employment and income opportunities through the creation and expansion of micro enterprises; to increase productivity and income of vulnerable groups, especially women and poor; and to reduce rural families' dependence on droughts- prone crops through diversification of their income generating activities. Assessing the extent to which MFIs have been able to achieve these objectives is difficult due to other exogenous factors affecting them. As such MFIs' performance is usually measured in terms of outreach and financial sustainability.

The credit model adapted by a MFI does affect outreach and financial sustainability and hence the MFI's success or failure (Women's World Banking 2001).

2.2 Risk factors in MFIs

While both MFIs and commercial banks are vulnerable to liquidity problems brought on by a mismatch of maturities of assets and liabilities, and those of currencies, the features of MFIs differ significantly from those of commercial banks. This is due primarily to the MFIs' client base (low-income, assetless clients requiring small loans), lending models

(small, unsecured loans for short term based on character or group guarantees) and ownership structure (capitalized by donors rather than commercial investors) (Pischke 191:13).

Berenbach (1997), outlines four main areas of risk that are specific to MFIs:

i) Ownership and governance

Proper governance and supervision performed by the owners, promotes accountability in financial institutions. Often, investors in MFIs are motivated by social objectives and as a result they may not hold this investment to the same standard that they apply to commercial investments. This results in lack of adequate oversight of management.

MFIs may be capable of raising the initial capital requirements from their founding shareholders, however these owners may lack the financial depth, or the motivation to respond to additional calls for capital as required.

ii) Portfolio risk

Unlike other financial institutions, most MFIs have highly specialized portfolios that consist solely of short-term working capital loans to informal sector clients. Although MFIs may have thousands of loans to diverse industries, externalities could affect the entire market. MFIs should therefore, consider diversifying to other products as this will aid in elimination of nonsystematic risk (Brigham 1983:40)

iii) Management risks

Management risks that apply to MFIs are generated by the specific methods of providing financial services. These risks include decentralized operational systems. A decentralized organizational structure that permits the provision of financial services directly at the borrower or saver's location is central to microfinance. Consequently, adequate communication systems must be maintained, so that uniform policies and procedures are adopted (Khatri 2000: 43). Furthermore, decentralized operations create an environment that can easily be subject to fraudulent practices. In economies where MFIs' regulators

exist, they should require the MFIs to maintain strong internal auditing capabilities and aggressive internal auditing procedures.

Management efficiency is the other management risk, emanating from the methods used by MFIs to provide financial services. MFIs offer high-volume, repetitive services that operate on very tight margins. If funds are not delivered promptly, earnings will suffer, the MFIs' ability to maintain financial sustainability will be low and hence the ability to provide financial services to the underserved will be threatened.

Management information is the other management risk faced by MFIs. Decentralized operating methods, high volume of short-term loans, rapid portfolio turnover, and the requirement for efficient services delivery make accurate and current portfolio information essential for effective MFI management. In general, MFIs have not focused on providing adequate and appropriate financial information for making judgement about their financial viability.

iv) New industry

A number of risks facing MFIs stems from the fact that microfinance is a relatively new field. Formal financial services may also be new to the micro market. Some of the problems associated with new industry include growth management. Firms that expand into new markets often face little competition but may have problems in managing the growth due to lack of knowledge in the area and/or lack of well-qualified personnel. It is therefore important that firms carry out feasibility studies before launching a product in a given market (Bolinick 1990:59).

New products and services are a characteristic of this new industry. Although the industry has made considerable advances in the design of appropriate microfinance products and services, the field remains relatively young and untested. It is difficult to assess when a new product or service is an ill-conceived deviation from an existing model or a breakthrough in new service for the market.

These risks affect the ability of Microfinance Institutions to maintain good financial sustainability and the ability to reach more clients.

2.3 Outreach

Outreach is concerned with both the scale of organization's activities (number of clients served with different types of instruments) and the depth of outreach (types of clients reached and their level of poverty) (Paxton 1998). Depth of outreach is proxied by average loan size or average loan size as a percentage of GDP per capita.

Outreach indicators are both qualitative and quantitative. They can be weighted, quantified, and prioritized according to their relevance to a particular MFI. Yaron (1997: 56), classified the indicators of outreach into three classes namely:

i) Clients and staff

Under client and staff, the following variables are used as the indicators of outreach: the number of clients or members (percentage women); percentage of total target clientele serviced (current); number of women as percentage of total borrowers; number of women as a percentage of total depositors; number of staff; number of urban branches or units, number of rural branches or unit; ratio of rural to urban branches or units; ratio of volume of deposits to volume of outstanding loans and mobile banking use.

ii) Loan outreach

To measure the loan outreach performance, MFIs use parameters such as: the number of currently active borrowers; total balance of outstanding loans; average outstanding portfolio, real annual average growth rate of loans outstanding during the past three years (in real terms); loan size: minimum and maximum; average disbursed loan size; average disbursed loan as a percentage of GDP per capita; average loan term; nominal interest rate; effective annual interest rate and value of loans per staff member (per credit officer).

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iii) Savings outreach

Savings outreach is measured in terms of: total balance of voluntary savings accounts; total annual average savings as a percentage of annual average outstanding loan portfolio; number of current voluntary savings clients; value of average savings account; average savings deposits per staff member; number of savers per staff member and nominal deposit interest rate (per annum).

This study will focus on the measures of the scale of organization's activities (number of clients served with different types of instruments) and the depth of outreach (the type of clients served).

2.4 The major aspects of credit model and their importance

Credit is borrowed funds with specified terms for repayment over a specified period of time (Pandey 1979: 55). Credit model on the other hand refers to the particular design or plan adopted by a financial institution to deliver credit facilities to its clients (Yunus 1983: 12)

The credit model adopted by a credit provider defines: the methods of credit delivery, that is whether individual lending or group-based lending; the product design, which includes the loan amount, the loan terms, repayment frequency, pricing (interest rates and fees), savings products and requirements, insurance or other funds; the target market or the eligibility criteria, which is concerned with gender, age, years of experience in business, collateral, guarantors, peer groups, other collateral substitutes, legal, cultural or other regulatory requirements; and the delinquency management. Delinquency management is concerned with reports and monitoring, incentives and sanctions such as rewards for timely repayments and penalties for late payment (Ledgerwood 1999: 120).

Therefore credit services need to be well designed to ensure that the services offered meet the demand of clients, that operations are as efficient as possible and costs are minimized, that interest rate and fees are sufficient to cover costs and that clients are motivated to repay loans. Discussed below, are some of the major aspects of credit model as used by financial institutions and the role that they play in the organization's achievement of the

objectives of outreach and financial sustainability.

i) The target market

This is a group of potential clients, who share certain characteristics, and are likely to be attracted to a specific combination of products and services (Goldberg 1992: 13). In selecting a target market for credit services, financial institutions need to determine their own objectives, understand what motivates a group of clients and assess whether the target market can be financially sustainable.

An organization must define its objectives well, and hence its target market and design its product to meet the needs of this market. If it fails to do so, it will have difficulties managing its operations and staying focused. For example, an organization that simply wants to provide financial services to the poor without defining who the poor are and which level of the poor it wants to reach often ends up operating with different credit models, trying to serve different groups and satisfy different donors (Otero 1994: 23).

Target market can be identified by the characteristics of the client (poverty levels, gender, ethnicity, caste, religion and so forth) the MFIs want to serve and the type of level of business activity (existing business, growth oriented business or specific economic sectors) it wishes to support (Goldberg 1992: 45).

Banks on the other hand, identify their target market by the clients' character, capacity and collateral (Yeager 1989: 286).

Although the goals may differ, development organizations still need to use the approach of profit oriented companies to identify what the chosen clients want and what they can afford to pay, so that appropriate products and services can be offered. The question is not whether to identify a target market, but how to identify it.

ii) Credit delivery methods

Method of credit delivery can generally be divided into two broad categories of individual and group approaches, based on how the financial institution delivers and guarantees its loans (Waterfield 1996: 83).

(a) Individual lending

Individual lending is defined as the provision of credit to individuals who are not members of a group that is jointly responsible for loan repayment (Ledgerwood 1999: 83). Individual lending requires frequent and close contact with individual clients to provide credit product tailored to the specific needs of the business. It is most successful for larger, urban-based, production- oriented businesses and for clients who have some form of collateral. In rural areas, individual lending can also be successful with small farmers (Waterfield 1996: 84).

(b) Group -based lending

This involves the formation of group of people who have a common wish to access financial services. Group-lending approach make loans to groups-that is, either to individuals who are members of a group and guarantee each other's loans or to groups that then sub loan to their members (Yunus 1983: 4).

iii) The product design

Regardless of the approach selected for credit delivery, the actual loan product need to be designed according to the demand of the target market. This involves establishment of appropriate loan amount, loan term, collateral requirements (or substitutes), interest rates and fees, and voluntary, compulsory savings or group contribution requirements (Ledgerwood 1999: 133). Successfully designed credit products that meet the needs of borrowers are a necessity for any financial institution. This is because the credit product design does affect both the borrowers and the viability of the lending institution.

The product design will also affect the depth of outreach, as proxied by average loan size, which is an aspect of credit product design.

(a) The loan amount:

The appropriate loan amount is dependent on the purpose of the loan and the ability of the client to repay the loan (debt capacity). When determining the debt capacity of potential clients, it is necessary to consider their cash flow as well as the degree of risk associated with this cash flow and other claims that may come before repayment of a loan to the financial institution. This way the firm is able to come up with appropriate loan size that the borrowers are able to repay without much constrain (Robert 1998:100).

Loans should be based on the cash patterns of the borrowers and the design as much as possible to enable the client to repay the loan without undue hardship. This helps the credit provider to avoid potential losses and encourages clients both to manage their funds prudently and to build up an asset base.

(b) The loan term

This refers to the period of time during which the entire loan must be repaid (Pandey 1979: 853). The loan term affects the repayment schedule, the revenue to the financial institution, the financing costs of the client, and the ultimate suitability of the use of the loan. The closer an organization matches loan terms to its client's needs, the easier it is for the client to "carry" the loan and the more likely that repayments will be made on time and in full.

(c) Frequency of loan repayments

Loan payments can be made on an installment basis (weekly, biweekly, monthly) or at the end of the loan term, depending on the cash pattern of the borrower (Yunus 1993: 23). Activities that generate ongoing revenue can be designed with installment payment. This way the client is able to repay the loan over time without having to save the loan amount (for repayment) over the term of the loan. The frequency of payments depends on the needs of the client and the ability of the financial institution to ensure repayment.

For seasonal activities, lump sum payment made once the activity is completed, is more appropriate.

(d) Loan collateral

Generally, MFIs lend to low-income clients who often have very few assets. Consequently, traditional collateral such as property, land, machinery and other capital assets are often not available. Innovative means of reducing the risk of loan loss have been developed, such as collateral substitutes and alternative collateral (Webster 1996: 5).

The traditional banking sector on the other hand, emphasize on pledging of collateral before advancing loan to their clients (Pandey 1979: 120).

(e) Interest rate and fees (loan Pricing)

Pricing loans is an important aspect of loan product design. A balance must be reached between what clients can afford and what the lending organization needs to earn, to cover all of its costs, (and earn a profit, especially the banks).

Generally, microfinance clients are not interest-rate sensitive (Ledgerwood 1999: 138). However, an MFI must ensure that its operations are as efficient as possible so that undue burden is not put on its clients in the form of high interest rate and fees. MFIs can use their cost structure to determine the interest rate they need to charge.

In addition to the interest, many credit providers especially the MFIs, also charge some fees on the loan disbursed. This fee increases the financial costs of loan for the borrower but it also increases revenue to the financial institution. Fees are generally charged as a percentage of the initial loan amount and are collected up front rather than over the term of the loan (Ndungu 2000:10).

(f) Compulsory savings

Compulsory savings form an integral part of lending by MFIs. It represents funds that must be contributed by borrowers as a condition of receiving a loan, sometimes as a

percentage of the loan, sometimes as a nominal amount (Yunus1995: 10). For the most part, compulsory savings can be considered as part of a loan product rather than an actual savings product, since they are so closely tied to receiving and repaying loans. Compulsory savings locks out the people, who cannot offer them, from the MFIs' credit.

Compulsory savings are useful in MFIs to:

- Demonstrate the value of savings practices to borrowers;
- Serve as an additional guarantees mechanism to ensure the repayment of loans;
- Demonstrate the ability of clients to manage cash flow and make periodic contributions (important for loan repayment);
- Help to build up the asset base of clients (Ledgerwood 1996: 72).

Compulsory savings differs from voluntary savings in that they are not generally available for withdrawal while a loan is outstanding. In this way compulsory savings acts as a form of collateral.

Compulsory savings is not an integral part of lending in the traditional banking sector. However, some banks may require that a client be an account holder in that bank in order to access some forms of credit facilities. For example, to get a personal loan in Kenya Commercial Bank one must have maintained an account with the bank for at least six months.

iv) Delinquency management

Delinquent loans refer to loans that have an amount that has come due and has not been received (Yeager 1989: 287). A delinquent loan becomes a defaulted loan when the chances of recovery become minimal.

For MFIs, Whose loans are typically not backed by bankable collateral the quality of portfolio is crucial (Abate 2000: 1). Portfolio quality ratios is measured by the following ratios: arrears rate; the portfolio at risk and the ratio of delinquent borrowers where,

Arrears rate = Amount in arrears / Portfolio outstanding (including amount past due)

Portfolio at risk = outstanding balance of loans with Payments past due / Portfolio outstanding (including amount past due)

Delinquent borrowers = Number of delinquent borrowers / Total number of active borrowers

(Ledgerwood 1999: 207-208)

These ratios are directly affected by the write-off policy of the credit provider. If delinquent loans continue to be maintained on the books rather than written off once they have been determined that they are unlikely to be repaid the size of the portfolio and hence the denominator is overstated. The result is a higher portfolio at risk than for a lender who writes loans off appropriately. Alternatively, if loans are written off too quickly, the portfolio at risk ratio will be unrealistically low, since delinquent loans are simply taken out of the numerator and denominator and the portfolio is seemingly quite healthy.

Since delinquent loans play a critical role in an organization's expenses, cash flow, revenue and profitability and hence the number of clients the organization is able to provide with credit, they need to be managed well. Delinquency is often a result of poorly designed loan products and delivery mechanism.

Ledgerwood (1996: 29), stated six essential elements to managing delinquency which includes: the client must be screened carefully; field staff and clients must understand that late payments are not acceptable; timely and accurate management information systems; delinquency needs effective follow-up procedures; and the consequences of loan default must be sufficiently unappealing to clients.

Ultimately, the financial institutions should understand that delinquency is not usually the result of borrowers who cannot pay. More often, it is the result of borrowers who will not

pay.

The microfinance approaches to lending

The microfinance approaches to lending generally includes some specific products design issues and a primary means of differentiating one approach from the other is in the choice of products and services provided and the manner in which the provision is made (Ledgerwood 1999: 82). Any approach must be based on the target market and its demand for financial intermediation, and the objectives and institutional structure of the MFI. The approach chosen determines the number and the kind of clients served by the MFI and the amounts (size) of loan advanced. Some of the MFIs' lending approaches include:

i) Individual lending

Individual lending involves the provision of credit to individuals who are not members of a group that is jointly responsible for loan repayment (Khandker 1995:42).

The method used to deliver credit under individual lending:

Credit officer usually work with a relatively small number of clients (between 60 &140) and develop close relationships with them over the years, often providing minimal technical assistance (Bennett 1997: 90). The credit officer bases the loan amount and terms, on careful analysis. Interest rates are relatively higher than formal sector loans. Most MFIs require some form of collateral or cosignatories. Compulsory savings usually are not required.

The Products offered: Loan sizes in individual lending approach vary from US $100 to US$3000 with terms between six months and 5 years (Paxton 1998: 20).

The Clientele: The clients are usually urban enterprises or small farmers, including both men and women who may be medium income small business owners, micro business and production enterprises (Khandker 1995:43).

The examples of MFIs using this approach includes: ADEMI in the Dominican Republic: Bank Rakyat Indonesia; Alexandria Business Association in Egypt (Khandker 1995:45).

ii) Solidarity group lending

This model loans to individuals who are members of groups, whose membership varies from four to ten members (Yunus 1983: 4).

The method adapted in lending:

Group members collectively guarantee loan repayment and access to subsequent loans is subject to successful repayment by all group members. Payments are made weekly at the programme's office. Loan approval is by credit officer based on minimum economic analysis of each loan request. Group members normally receive equal loan amounts, with some flexibility provided for subsequent loans. Savings are usually required but are often deducted from the loan amount at the time of disbursement rather than requiring the client to save before receiving loan. The savings act as a compensating balance, guaranteeing a portion of the loan amount.

The product offered: Initial loan amount are generally between US$100 and US$300. Subsequent loans have no upper limit (Ledgerwood 1999: 84). Interest rate are often quite high and service fees are charged. Intra group emergency fund may be established to serve as a safety net. Very few voluntary savings products are offered.

The Clients served includes: According to Yunus (1983:14) the clients of solidarity group lending are men and women from rural and urban (densely populated) areas, in the low-income brackets.

This approach is used by the following MFIs: The ACCION affiliates: PRODEM and PROSEM in Guatemala, the Grameen Bank of Bangladesh Rural Advancement Committee in Bangladesh, Sahel Action in Burkina Faso (Bennett 1997:85).

iii) Village banking

Village banks are community managed credit savings associations established to provide access to financial services in rural areas, build community self-help group and help members accumulate savings (Otero 1994: 14). The model was developed in the mid

1980s by Foundation for International Community Assistance (FINCA)

How the village banking operates:
Sponsoring MFI lends seed capital to the bank, which then lends on the money to its members. All members sign the loan agreement to offer a collective guarantee. The loan amount to village bank is based on an aggregate of all individual members' loan request. First loans are typically short term (4 to 6months) and small amounts (US$ 50) to be repaid on weekly installments (Khandker 1995:45). The savings a member has accumulated during the first loan period through weekly contributions, determines the second loan amount. Loans to the village bank are generally provided in a series of fixed cycle.

The products offered: Members' savings are tied on loan amounts and are use to finance new loans or collective income generating activities. No interest is paid on savings. Loans have commercial rate of interest and higher rate if from an internal account (Katherine 2000:10).

The Clients served by village banks includes: Clients from rural areas, with low incomes but with savings capacity (Bennett 1997:13).

Examples of village banking approach are: FINCA in Mexico and Costa Rica; CARE in Guatemala; Freedom from Hunger in Mali, Ghana, Bolivia, Thailand, Burkina Faso; and Catholic Relief Services in Thailand and Benin (Otero 1994:17).

iv) self-reliant village banks (savings and loan associations)
These are established and managed by rural village communities. Unlike village banks, they cater to the needs of the village as a whole not just a group of 30 to 50 people.
The model was developed by French NGO, the Center for International Development and Research in the mid-1980s (Huppi 1990:17)

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The method used in this approach:
It mobilizes savings and extends short-term loans to villagers on an individual basis. The sponsoring program does not provide line of credit; the bank must rely on its savings mobilization. The association may act as intermediary and negotiate lines of credit with local banks, usually an agriculture development bank. This links the village bank to the formal financial sector (Paxton 1998:25).

The products offered includes: Savings; current accounts and term deposits. Loans are short-term, working capital loans. There is no direct link between loan amount and a member's savings capacity. Each village according to its experience with traditional Savings and Loans Associations sets interest rate. Loans are paid in one installments and collateral is necessary, but above all it is village trust and social pressure that ensures high payment rates (Yaron 1997:57).

Clients: Clients are rural folks who include men and women with low to medium income and some savings society (Huppi 1990: 17).

Examples here are: The Gambia (Village Savings and Credit Associations or VISACA) and Cameroon (Yaron 1997:59).

The aspects of credit model that this study has focused on are the target market (the type client served by the MFI), the credit delivery methods applied by the MFIs and the product design (loan amounts, loan collaterals, savings and interest rates charged on loans). These are main parameters that affect outreach (Yaron 1997: 57)

2.5 Relationship between credit model and MFIs' outreach

In microfinance literature, a number of advantages and disadvantages of using either the group-based model or the individual lending model have been sited.

One important feature of group-based lending is the use of peer pressure as a substitute for collateral. Since many of the group-based lending programmes target the very poor who

cannot meet traditional collateral requirements of most financial institutions, group guarantees are established as collateral substitutes. Other than making it possible to reach the poor with financial services, these financial and social grouping elicits several types of group dynamics that may increase repayment rate to the advantage of the MFI. However one major disadvantage of these groupings is that, if one member defaults generally this means that further lending to other members of the group is stopped until the loan is the repaid.

Group lending may also reduce certain institutional transaction costs. By shifting screening and monitoring costs to the group, an MFI can reach a large number of clients through self-selection of group members of the same community since they generally have excellent knowledge about who is a reliable credit risk and who is not.

Transaction costs are also reduced by use of a hierarchical structure found in group lending. Puhazhendhi (1995: 15) found that microfinance banks that use intermediaries such as self-help groups reduce transaction cost more successfully than banks that work directly with clients.

Bratton (1986: 20) demonstrates how group-lending institutions have better repayment rates than individual lending programmes in good years but worse repayment rates in years with some type of crisis.

Some critics question the assumption that transaction costs are indeed lower with group lending. Huppi (1990: 30) argue that group training costs tends to be quite high and no individual borrower-bank relationship is established over time. Not only are institutional transaction costs high but also client transaction costs are quite high, as more responsibility is shifted from the credit provider to the clients themselves. Also there are

people who prefer to have individual loans rather than being financially punished for the irresponsible repayment of other group members.

The frequent and close contact with individual clients required in individual lending increases the operation costs of an MFI, which affects both its financial returns and outreach. However, it also ensures that the credit products are tailored to the needs of the clients (Waterfield 1996: 84).

Individual lending will succeed in areas where people have some collateral to offer for the loan extended or are willing to cosigner. This means that the poor will not assess the services thereof.

2.6 Conclusion

Due to the disadvantages and advantages associated with group-based lending and those of individual lending, either of the approaches has succeeded in some context and collapsed in others. However from the earlier definition of outreach (as the scale of organization's activities and types of clients reached and their level of poverty) and the above discussion on the advantages and disadvantages of individual lending and group-based lending, it is clear that the organizations that use group-based lending approach are able to achieve more outreach than those using individual approach. This is because:

- Such organizations do not require tangible collaterals for the loans advanced. Therefore people in low-income brackets are able to access credit facilities from those organizations. Since depth of outreach is concern with the level of poverty of the client served by an organization, then group-based lenders have a greater depth of outreach than individual lenders whose clients are from higher-income brackets who can afford tangible collaterals.
- Repayment rate being higher in group-based lending approach than in individual lending due to peer pressure, the group-based lenders are able to give loans to more clients since they are encouraged by the loan performance and the availability of funds from the repayments.
- Since the clients themselves form groups, the group-based lenders are able to recruit more clients through the help of the group members rather than relaying on the limited organizations' labour force.

CHAPTER THREE

3.0 RESEARCH DESIGN

3.1 The population

The population for this study constituted all the MFIs in Kenya as listed in appendix III. As at the date of this study, out of the forty five MFIs in Kenya enlisted at the National council of NGOs and the Association of Microfinance Institution, thirty five (appendix II) of them had their headquarters in Nairobi and five of the remaining ten, were operating either as subsidiaries or equal partners with some of the first thirty five MFIs. It was thus decided to limit the study to Nairobi.

3.2 Sampling plan

Since the population of interest was relatively small, a census was conducted. This was done to ensure proper representation of the characteristics of the population and availability of sufficient data for analysis in cases where getting response, from some of the organizations, became difficult.

3.3 Respondents

The questionnaire was addressed to the Chief Executive Officers of the MFIs or the Senior Credit managers, as they were likely to have a good knowledge of the credit models that their organizations were using and the general performance of the MFI.

3.4 Data collection

The data collected was for a period of three years from 1st January 1999 to 31st December 2001. Three-year period was chosen so that averages can be used in the analysis in cases where data for more than one year was required. The researcher use face-to-face interviews to collect the data as far as it was practicable. Where such interviews were not accorded, the respondents were furnished with a questionnaire to complete.

The research instruments were interviews and questionnaire (appendix I). The interviews

were based on the questionnaire. The questionnaire had both open-ended and fixed alternative questions, because both standard data and supplementary data was needed.

The study was conducted in Nairobi in the months of May –August 2002 because most of the MFIs had headquarters in Nairobi although many of them operated in different parts of the country.

3.5 Data analysis

Before processing the responses, the completed questionnaires were edited for completeness and consistency. The responses were then tabulated to show the various aspects of credit models (table I) as used by the organizations involved in the study and the other outreach indicators (tables II, III & IV). The analysis was linked to each objective to enable accurate conclusions. Regression analysis was used to analyze the data. To improve accuracy and reduce the computational burden the application of Microsoft Excel computer package was used to calculate the statistics required.

Thirteen organizations were involved in the final analysis, because they are the only ones that provided sufficient information that could be reasonably analyzed for the purposes of this paper. The said organizations are: Bahati Community Centre, Co-operative Bank of Kenya, Jitegemea, Kenya Ecumenical Church Loan Fund (KECLOF), Kenya Rural Enterprise programme (K-REP), Kenya Small Traders and Enterprise Society (KSTES), Kolping, Pride Africa, Redeemed Gospel Church inc., Small & micro Enterprise Programme (SMEP), Undugu Society of Kenya, Wedco, and KADET (of World Vision). In the analysis they are not in the order listed above.

Test for effect of MFI's age on outreach

The relationship between the age of the MFIs used in the study and the number of clients served with different types of instruments was calculated. This was aimed at testing whether the age of the organizations had any effect on their outreach or could the various organizations' outreach be compared regardless of when they were formed? Although other factors, such as organization's ownership and its source of funds, could also have

effect on outreach very few organizations were willing to disclose such information therefore the researcher choose to test the effects of age on outreach. Loan facility being the product offered by all the MfIs involved in the study was used for this purpose.

This relationship will be established by the use of regression equations that is coefficient of determination (r^2) and correlation coefficient (r). These are expressed mathematically as:

$$r^2 = \frac{\left[n\sum xy - \sum x \sum y\right]^2}{\left[n\sum x^2 \left(\sum x^2\right)\right]\left[n\sum y^2 - \left(\sum y\right)^2\right]}$$

$$r = \sqrt{\frac{\left[n\sum xy - \sum x \sum y\right]^2}{\left[n\sum x^2 \left(\sum x^2\right)\right]\left[n\sum y^2 - \left(\sum y\right)^2\right]}}$$

Where r^2= Coefficient of determination

r= Correlation coefficient

x= Independent variable (age)

y= Dependent variable (No. of borrowers)

n= Number of organizations

Test for the relationship between the credit model and outreach

The effect the credit delivery method (individual/group-based) on outreach was examined. Here the outreach (in terms of number of people served with loan facilities) of the firms using individual lending was compared to that of those using group-based lending.

Effects of other aspects of credit model, such as the target market and product design on outreach was tested. It was not possible to carry out tests on the effects of delinquency management on outreach because the information needed for the purposes was not available. Most of the respondents were not willing to give information on number of delinquent borrowers, amount of arrears extra.

CHAPTER FOUR

4.0 FINDINGS AND INTERPRETATION

The study set out to determine the credit models used by MFIs in Kenya and the relationship between the credit model used and the outreach achieved. It was hoped that the relationship, if any would be identified and measured. It was also hoped that the best practice would be established and recommended for the MFIs to improve their performance.

4.1 Aspects of credit model and various outreach indicators

Table I on page 30 show the various aspects of credit models as used by various organizations involved in the study. Tables II to IV (on pages 31,32 and 33) records the outreach achieved by the organizations as indicated by client and staff, loan outreach and savings outreach respectively.

Table I

ASPECTS OF CREDIT MODEL AS USED BY THE VARIOUS MFIS

The figures used are for year 2001

Respondents		Credit Delivery	Target Market							Product Design					
MFI	Age	Method	No. of borrowers			No. of Depositors			Type of clients	Average loan	Loan term (P.A)		Repayment	Loan	Interest rate (%)
			Men	Women	Total	Men	Women	Total	served	size (kshs)	Min	max	frequency	collateral	per annum
1	9	Individual			303			145	Low-income catholic faithful	11,551	1	2	weekly	Tangible	22
2	3	Group-based	2,934	4,052	6,986	1,338	1,848	3,186	Existing small & medium businesses	26,868	1	1	weekly	Savings	30
3	4	Group-based	217	462	679	400	850	1,250	people from densely populated area	48,011	0.25	1	weekly	Savings	20
4	10	Group-based	11	24	35	25	55	80	Parents from slum area	10,857	1	1	weekly	Group-guarantee	10
5	4	Group-based			790			820	Existing small & medium businesses	45,189	1	1	weekly	Group-guarantee	22
6	8	Group-based	3,200	4,800	8,000	3,200	4,800	8,000	Existing small & micro businesses	18,750	1	1	monthly	Group-guarantee	20
7	2	Group-based			4,700			4,700	Existing small & micro businesses	18,085	1	1	monthly	Group-guarantee	20
8	16	Group-based			470			845	Existing small &medium businesses	31,808	0.5	2	monthly	Group-guarantee	20
9	18	Group-based	80	320	400	140	600	740	Sums' women groups & small busin.	4,500	0.5	1	monthly	Group-guarantee	20
10	3	Individual	720	778	1,498	658	712	1,370	Small to medium businesses	101,468	0.5	1	monthly	Tangible	30
11	44	Individual			11	0	0	0	Business owners PCEA faithful	46,363	1	1	monthly	Tangible	15
12	3	Group-based	5,000	20,000	25,000	2,000	4,500	6,500	Existing small &medium businesses	8,000	1	1	monthly	Group-guarantee	22
13	6	Group-based	1,195	8,778	10,973	878	10,095	10,973	Existing small& micro businesses	11,756	1	1	monthly	Group-guarantee	18

There are organizations that do not keep record of the gender of their borrowers and depositors, for such organizations the men and women columns are left blank. For the organizations that do not offer savings ; zero (0) has been used to show this.

TABLE II

CLIENT AND STAFF OUTREACH INDICATORS AS AT DECEMBER 2001

MFI	No. of credit officers	No. of branches	Ratio of Deposits to vol. of outstanding loans	% of women Borrowers	% of Women Depositors
1	3	2	0.4:1		
2	21	6	0.2:1	58	58
3	4	3	0.3:1	68	68
4	3	3	0.5:1	68	68
5	5	2	0.3:1		
6	16	6	0.1:1	60	60
7	26	10	0.2:1		
8	23	13	0.8:1		
9	3	7		80	80
10	32	20	1.4:1	52	52
11	2	1		82	
12	100	10	0.8:1	80	80
13	40	7	0.3:1	79	79

Incases where an MFI does not offer savings services the ratio of deposits to volume of outstanding loans has been left vacant.

For the firms that do n the gender of their cli the percentages of women to the total borrowers and depositors has been left blank.

TABLE III

LOAN OUTREACH

MFI	Avg.loan disbursed per annum for 3yrs (kshs million)	Total Loan outstanding as at Dec 2001 (kshs million)	Avg. outstanding Loan per annum for 3yrs (kshs million)	Avg. loan term (yrs)	Avg. interest rate (%) per annum	value of loan per credit officer (Kshs million)	No. of loans per credit officer	No. of currently active borrowers	Loan recovery rate (%)
1	6.2	3.5	1.5	1.4	19	2.1	101	145	
2	219.4	183.7	68.7	1	30	10.4	333	6,986	95
3	40.6	32.6	11.5	0.65	20	10.2	170	679	98
4	0.8	0.4	0.2	1	10	0.3	12	35	60
5	58.8	35.7	33.4	1	22	11.8	158	790	
6	199.4	150.1	120.3	1	19	12.5	500	8,000	80
7	98.52	85.2	46.2	1	20	16.4	181	4,700	60
8	25.85	14.9	11.5	1	20	1.1	20	470	89
9	4.3	1.8	1.2	1	20	1.4	133	400	82
10	288.3	152.1	147.3	0.75	30	9.1	23	1,498	72
11	1.4	0.5	0.4	1	15	0.7	6	11	71
12	389.5	200.2	198.5	1	20	3.9	250	25,000	
13	201.4	129.7	122.6	1	20	5.1	274	10,973	95

The value of loan per credit officer was calculated by dividing the average amount of loan disbursed per year for three years, by the average number of credit officers per annum. Whereas the number of loans per credit officer was obtained by dividing the average number of clients served with loan facilities for the three years between January 1999 and December 2001 by the average number of credit officers over the same period. Some organizations were unwilling to disclose information on repayment as such it was not possible to calculate their loan recovery rate and therefore it was left blank

TABLE IV

SAVINGS OUTREACH INDICATORS

MFI	No. of voluntary savers	No. of compulsory savers	Total savings as at Dec.2001(kshs million)	% of avg. annual savings to annual avg outstanding loan	Deposits' interest rate (%) per year	Value of deposits per cr officer(kshs million)	No. of savers per cr officer
1	105	40	1.5	40	6.5	0.5	48
2	0	3,186	33.9	20	3	1.6	152
3	0	1,250	9.1	30	6.5	2.3	312
4	0	80	0.2	50	0	0.1	27
5	0	820	11.9	30	0	2.4	164
6	0	8,000	12.1	10	0	0.8	500
7	0	4,700	15.6	20	6	0.6	180
8	0	945	12.2	80	0	0.5	41
9	0	0	0				
10	1,370	0	212.1	140	8	6.6	43
11	0	0	0				
12	0	25,000	150.1	80	8	1.5	65
13	0	10,973	42.2	30	4	1.1	274

The value of savings per credit officer (cr) was calculated by dividing the average amount of savings mobilised over a period of three years (January 1999 to December 2001) by the average number of credit officers per year. The number of savings per credit officer on the other hand was obtained by dividing the number of savers per year by the number of credit officers per year

where savings were not mobilized the relevant columns were left vacant

4.2 Test for effect of MFIs' age on outreach

This was done to test where outreach of different organizations with different ages could be compared. Although other exogenous factors such as firm's ownership and sources of funds could also have impact on outreach, some organizations were either unwilling to disclose such information or the information given was inadequate for analysis. Therefore, only tests for age's impact on outreach were done.

The outreach indicator used for this purpose was the number of clients served with loan facilities. This indicator was chosen because all the studied MFIs had loan facility in their portfolio and it also gives a good indication of the scale of organizations' activities (Paxton 1998: 45).

MFI (n)	Age (x)	No. of borrowers(y) in the year 2001
1	9	303
2	3	6986
3	4	679
4	10	35
5	4	790
6	12	8000
7	2	4700
8	16	470
9	18	100
10	3	1498
11	44	11
12	3	25000
13	6	10973

The coefficient of determination (r^2) between age and number of borrowers is given by:

$$r^2 = \frac{\left[n\sum xy - \sum x \sum y\right]^2}{\left[n\sum x^2 (\sum x^2)\right]\left[n\sum y^2 - (\sum y)^2\right]}$$

Coefficient of determination (r^2) measures the amount of variations in dependent variable (y), which are explained by the introduction of the independent variable (x) into the model. A perfect linear relation would result in r =1 or r =100% (Colin 1996: 43)

The above calculation yielded a r^2 of 0.12. This implies that only 12% of variations in number of clients served with loan facilities (y factor) is explained by variations in the age (x) of the MFI. 88% of variations in the number of borrowers is explained by other factors other than the age of the firm and the error term (e).

The correlation(r) between the age of MFIs and the number of clients served with credit facilities is given by:

$$r = \sqrt{\frac{\left[n\sum xy - \sum x \sum y\right]^2}{\left[n\sum x^2 - (\sum x)^2\right]\left[n\sum y^2 - (\sum y)^2\right]}}$$

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Correlation coefficient measures the degree of association between the two variables. As a rule of thumb if correlation coefficient is greater than 0.8 ($r>0.8$), then the dependent variable (y) is greatly influenced or dependent on the independent variable (x) Colin (1996: 45). This mean that, if the correlation between age (the x factor) and the number of borrowers (the y factor) is greater than 0.8 ($r>0.8$), then the number of clients served with loan facilities varies with the age of the organization. As such, it could be inappropriate to compare the outreach of organizations in different age brackets.

From the above calculation, the correlation between x and y is $r = -0.34$. Therefore r is far much below the 0.8 rule ($r<0.8$), this implies that the number of clients served with credit facilities by an MFI does not depend on the age of the MFI.

Therefore, the outreach of the various MFIs can be compared regardless of the length of time the MFI has been in operation, for age has insignificant effect on outreach has proxied by the number of borrowers.

4.3 Test for relationship between credit model and outreach

Since test for effect of MFIs' age on outreached yielded negative results, the outreach of the all organizations involved in the study was compared irrespective of when they were formed.

The relationship between credit delivery method (individual / group based lending) and outreach

From table I, it is clear that only three organizations out of the analyzed thirteen were using individual lending approach. When the outreach of the organizations using individual lending approach was compared to that of the group-based lenders the following results were observed:

- *the number of borrowers*- the organizations using group-based lending had relatively more clients compared to those using individual lending. Take for-example organization number 10, which uses individual lending, and number 6 that uses group-based lending. The two organizations have an outstanding loan portfolio of kshs 152

million and kshs 150 million respectively, however the number of clients advanced the said loans are 1498 and 8000 respectively. Although firm 6 has a relatively smaller outstanding loan portfolio it scale of outreach (as proxied by the number of clients) is far much higher than that of firm 10.

The same is observable even among the smaller firms, in terms of the outstanding loan portfolio. MFI 1(an individual lender) has only 303 borrowers and an outstanding portfolio of kshs 3.5 million compared to MFI 9 (a group-based lender), which has 400 borrowers with an outstanding loan portfolio of only kshs 1.8 million.

- *the number of savers*- the group-based lending firms are able to mobilize funds from relatively more clients than those using individual based lending approach. However the amount (in kshs) of savings per client is smaller for group-based lenders compared to that of the individual lenders.
- *the gender of the clients*- although not all of the thirteen organizations kept data on the gender of their clients, it was observable from those who did that the group-based lending firms had more women than men in their clientele and opposite is true for the individual lenders. The average percentage of women borrowers for the individual lending firms is 64% whereas that of the group-based firms is 78%. Pischke (1991) stated that women are some of the people that are consistently under served by financial institutions. Therefore, MFIs with a big percentage of women clients are seen to achieve greater outreach than the one with few women clients. In fact MFIs are encouraged to target female clients not only because of their exclusion from formal finance, but also because women spend a greater percentage of their share of household income on food, children's clothes, education, and health than men do, as demonstrated in several studies (for example Goldberg 1992).
- *number of clients per credit officer*- the number of both the borrowers and savers per credit officer (tables III & IV) is bigger for the group-based lending firms compared to that of the individual lending firms. This ratio captures the productivity of the institution's staff. The higher the ratio the more productive the institution (Abate 2000: 19).
- *the value of loan/savings per credit officer*- the value of loan and savings per credit officer, as obtained by dividing the outstanding loan portfolio and total savings

respectively by the number of credit officers, is higher for the individual lending MFIs compared to the group-based lending MFIs when comparation is done between the organization of relatively the same size in term of loan portfolio.

- *loan recovery rate*-many organizations were not willing to give information on this. However judging from the few that did, it is clear that the group-based lending organization have a better loan recovery rate than those using individual lending (see table III). This better loan recovery rate among the group-based lenders can be attributed to peer pressure. The average loans recovery rate of the group-based lending MFIs was 71% whereas that of the individual-lending firms was 61%.

Firms with high loan recovery rate are able to achieve greater outreach as measured they the number of clients served with loan because they are motivated to give more loans since the existing loanees are paying up. Secondly the fund is able to revolve among many clients per given period of time as more people are given loans from the recovered loan fund.

The relationship between the organization's Product design and outreach

Product design is concern with loan term, loan amount, collateral requirements, interest rate, frequency of repayment extra (table I). The product design does affect the depth of outreach as proxied by average loan size (Ledgerwood 1999:133). When tests were carried out to see the effects of product design on outreach, the following were the results:

- *Interest rate and outreach*-coefficient of determination (r^2) between interest rate and the number of borrowers yielded 0.03. That of interest rate and the amount of loan portfolio outstanding was 0.35. Interest rate therefore accounts for only 3% of the variations in the number of borrower and 35% of variations in the amount of loan disbursed. A bigger percentage in variations in the number of borrowers and amount of loan portfolio depends on other factors other than the interest rates charged on the loan.

The correlation (r) between the interest charged on loan (x) and the number of borrowers (y) was found to be $r = 0.16$. Whereas that of the interest rate and the loans

outstanding was 0.59. According to the Colin's rule of the thumb, since both are less than 0.8 ($r< 0.8$), neither the loan portfolio nor the number of borrowers depend on the interest charged on the loan.

The above findings supports Bratton's (1986: 43) argument that MFIs' clients are not sensitive to the interest charged on the loan. Given the lack of alternative for credit or savings services in the formal sector, a percentage change in interest rates will not greatly influence their behaviour.

- *loan collateral and outreach-* group-base lenders mainly use group-guarantees whereas individual lenders rely on tangible collaterals (table I). The organizations that rely on group-guarantees have more clients (both the savers an the borrower) than those using the tangible collateral. This could be explained by the fact that majority of MFIs' clients are from low-income brackets and since they cannot afford tangible collaterals such as land they choose to seek services of those firms that allow for other forms of collaterals.

  Firm that do not rely on tangible assets to secure their loans therefore have a better outreach than those insist on tangible securities.
- *loan term and outreach*-tests were carried out to determine the effect of loan term on loan recovery rate. On average, the firms with short loan terms have a better loan recovery rate than those with long loan terms. This can be observed in tables I & III.
- *Frequency of loan repayment and outreach*-out of the thirteen organizations four were using weekly loan repayment and the rest were using monthly repayment system (table I). Frequency of repayment has effects on loan recovery rate. From the few organizations that disclosed information on repayment, it was clear that the firms with weekly repayment have a better loan recovery rate than those with monthly repayments. The average loan recovery rate of those with weekly repayment was 81% whereas that of the monthly repayment ones was 74%.
- *Loan size*-this is calculated by dividing the outstanding loan portfolio by the number of borrower (table III). Loan size is a good indication of the depth of

outreach. On average the individual lenders have a higher loan size that the group-based lenders.

The information needed to calculate the delinquency management factors (arrears rate, portfolio at risk and delinquent borrowers) was not readily available. Therefore, this aspect of credit model was not included in the analysis.

CHAPTER FIVE

5.0 SUMMARY AND CONCLUSIONS

In order for MFIs to continue meeting the financial services needs of the low-income earners, they need to have well formulated plans on outreach and financial sustainability. They also need to know which endogenous and exogenous factors affect these two important objectives of any Microfinance Institution. It is only by so doing that they come up with appropriate planning and control measures that will ensure achievement of their goals.

This study was tailored to investigate the credit model used by MFIs in Kenya and investigate how the credit model adopted by a MFI is related to its outreach.

5.1 Conclusions

The majority of firms involved in the study relied on group-based lending approach to deliver credit facilities to their clients. Ten out of the analyzed thirteen were using group-based lending and the remaining three were using individual lending approach.

The target market of most of the MFIs was mainly people in low-income bracket who are predominantly women. The clients had to have an existing small to medium business enterprise to access credit facilities for most of the MFIs.

Group-guarantees were the main characteristic of the group-based lenders whereas individual lenders relied on tangible collateral such as land, car logbooks, share certificates extra.

Monthly repayment is common among the MFIs. Nine out of the thirteen firms involved in this analysis used a monthly repayment. The other four were using weekly repayments.

Interest rate on loan was very high among all the MFIs. It ranged between 18% and 30%

per annum. However, interests on deposits were very low, between 0% and 8%.

A compulsory saving was a very common product among the studied MFIs. Only three out of thirteen firms did not have the product. However voluntary savings were not common, only one firm was mobilizing voluntary savings.

Information on delinquency management was not available from the respondents. Most of the organizations were not willing to give information that could enable the calculation of arrears rate, portfolio at risk and delinquent borrowers, which are the major indicators of delinquency management.

The data collected during the research showed that, the credit delivery method adopted by a firm has effects on it outreach. Firms that use group-based lending are able to serve more clients with both the loan and savings service than those using the individual lending approach. This can be attributed to the fact that group-based lenders rely on group-guarantees to securer loans, this way they are able to attract a large number of low-income earners who could otherwise not have borrowed if tangible collateral were required.

The individual lending organizations have a relatively bigger loan size than the group-based lenders. This reduces the organizations cost of operations. One of the major disadvantages sited by the group-based lenders was the high cost administration per loan, since they have very many small loans in their portfolio. However, this big loan size reduces the number of clients served with loan facilities, if funds are limited, whereas the aim should to reach as many low-income earners as possible. Nevertheless, one can argue than small loans are uneconomical to both the borrower and the lender.

Group-based lending firms have a better loan recovery rate than those using individual lending due to peer-pressure among the group members that ensure that members pay up their loans.

MFIs clients are not interest rate sensitive. This can be attributed to their lack of

alternative for credit or savings services in the formal sector, a percentage change in interest rates will not greatly influence their behaviour. MFIs can therefore increase their depth of outreach, as measured by the type of clients served and their level of poverty, by offering loan to clients in low incomes brackets and then charging high interests to cover the risks.

The higher the frequency of loan repayment the better on loan recovery rate. This is because when the frequency is high, the clients are able to repay the loan as soon as they get the money without having to save the loan amount. However, the frequency of repayment must be set depending on the clients' needs and the ability of the MFI to ensure repayment. A balance must be struck between the transaction costs associated with frequent repayment and risk of default through poor cash management associated with infrequent repayments.

5.2 Limitations of the study

Out of the thirty-five MFIs listed for the study, ten either had closed down by the time of the study or had stopped offering microfinance services. Five of the remaining twenty-five were not willing to give any information. Other organizations did not have proper records of their operations making it impossible to collect any data from them. As such, only 13 organizations were involved in the final analysis.

Even among the thirteen firms that were analyzed some of them were not willing to disclose all the information requested and this aggravated the problem further.

It was difficult to get information that could enable to carry out tests of the effects of other factors on outreach, other than age of the microfinance institutions, such as ownership and sources of fund extra.

Some of the key plays in the microfinance sector such as Kenya Women Finance Trust (KWFT), Kenya Commercial Bank (KCB) and Faulu Kenya; unwillingness to supply information denied this research the richness that it could have otherwise achieved.

5.3 Suggestions for further research

Further research can be conducted to determine whether there is any relationship between the credit model used by MFIs and their financial performance.

Further research can also be carried out to determine the effect that the proposed regularization of MFIs in Kenya could have on both the outreach and financial performance of MFIs.

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APPENDIX I

QUESTIONNAIRE

Where several alternative responses are provided, please tick the one that most closely fit the question. In some cases you may select more than one response.

1.Name of the organization:...

2.Year of establishment...

3.Name and the title of the respondent...

....

4. What is the mission and vision for your organization?

The vision:...

....

....

The mission:...

....

....

....

5.What services do you offer your customers?

Loans ☐

Savings ☐

Training ☐

Others ☐ please specify ....

....

....

....

6.If you offer loans services, briefly explain the rules or please provide a brochure, that govern the credit facility

....

....

....

....

7. What credit models do you use for new loanees?

Group-based model ☐

Individual credit model ☐

Others ☐ please specify..................

....

....

8.If group-based model is used:

a) How are the groups formed?

....

....

....

....

b) How many people make up a group?

....

....

....

....

c) Please give a brief overview of group membership requirements.

....

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9. Please comment briefly on the advantages and disadvantages of the credit model you use: Advantages..

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Disadvantages……………………………………………………………………………

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10. What types of collateral do you require from your clients?

Tangible security (land, others) ☐

No tangible security required ☐

Guarantees: group ☐

Individual ☐

Others ☐ please specify……….

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11. How do you determine the rate of interest that you charge your clients?

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12. What is your present rate of interest per annum, and what has it been for the last three years?

Rate (% per annum)

	New-loanees	Old-loanees	Individual-borrowers	Group-loans
Year 2002				
2001				
2000				

13. What other fees do you charge on the loans?..

....

....

14. When are these fees and interest paid?

	Fees	interest	
Up-front	☐	☐	
Over the loan term	☐	☐	
Others	☐	☐	please specify..

....

....

15. What are the limits of the amount of loan that one can borrow?............................

....

16. What does this amount (loan size) depend on?

Whether it's an initial loan (new-loanees)/ repeated borrowing	☐
Whether it's an individual borrower/group-based borrower	☐
Whether the borrower has a savings account with the MFI or not	☐
Whether the borrower has collateral to offer or not	☐
Others	☐ please

specify...

....

....

....

17. For how long do you extend your loan (loan term)?

A week	☐
Two weeks	☐
A month	☐
A year	☐
Others	☐ please specify....

....

....

....

....

18. What is the frequency of loan payments?

Weekly ☐

Biweekly ☐

Monthly ☐

Lump sum at the end of the term ☐

Others ☐ please specify…

……………………………………………………………………

……………………………………………………………………

……………………………………………………………………

……………………………………………………………………

19. What kind of savings do you mobilize from your clients?

Voluntary savings ☐

Compulsory savings ☐

Others ☐ please specify…………..

……………………………………………………………………

……………………………………………………………………

……………………………………………………………………

20. Please comment on your organization's focus on the issues of:

a) Outreach…………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

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b) Financial sustainability………………………………………………

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21. Please provide the following information for the last 4 years. In case where the figures were not constant, take the average of the opening, closing and middle of the year figures.

	1999	2000	2001	2002
Lending rate (%): Normal loans				
Subsidized loans				
Customer deposit rates (%)				
Borrowing rate (%): Commercial funds				
Subsidized funds				
Total customer repayments (amounts)				
Loan recovery rates (%)				
No. of borrowers				
Loan size: Minimum				
Maximum				
No. of customers advanced loans in year: New customers; Men				
Women				
Existing customers; Men				
Women				

	1999	2000	2001	2002
Amount of loans disbursed in year:				
New customers; Men				
Women				
Existing customers; Men				
Women				
No. of customer savings accounts:				
Voluntary savings: Men				
Women				
Compulsory savings: Men				
Women				
Amounts of deposits collected in the year:				
Voluntary				
Compulsory				
Number of employees				
Number of credit officers				
Number of branches:				
Rural				
Urban				

22. Briefly describe the characteristics of the your clientele

Start-up businesses ☐

Existing small-scale businesses ☐

Existing medium businesses ☐

Large-scale existing businesses ☐

Women groups' ☐

Slum (densely populated areas) dwellers ☐

Others ☐ please specify..................

....

....

23. In your opinion, what is the relationship between the credit model that your organization uses and the outreach achieved?...

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....

Thank you very much for your time.

APPENDIX II

List of the Nairobi based MFIs

1. Action Aid Kenya
2. Bahati Community Centre
3. Christian Children Fund
4. Christian Industrial Training Centers (CITCs)
5. Co-operative Bank of Kenya
6. Faulu Kenya Microfinance Programme
7. Industrial and Commercial Development Corporation
8. Informal Business Advisory Agency Center
9. Improve your Business
10. Jitegemea
11. Kenya Commercial Bank Ltd. Special Loan
12. Kenya Ecumenical Church Loan Fund
13. Kenya Industrial Estates
14. Kenya Rural Enterprise Programme (K-REP)
15. Kenya Small Traders and Entrepreneurs Society
16. Kenya Organization of Micro and Medium Enterprise
17. Kenya Women Finance Trust
18. Kolping Organization of Kenya
19. Ministry of Finance, Rural Enterprise Fund
20. National Council of Churches of Kenya
21. Partnership for Production/Kenya (PFP/K)
22. Redeemed Gospel Church Inc.
23. Rural Enterprise AS Community Help (REACA)
24. Rural Initiative Development Enterprise
25. Small Enterprise Credit Association
26. Small Enterprise Finance Company
27. Small and Micro Enterprise Programme (SMEP)

28. St. John's Community Center
29. Undugu society of Kenya
30. University of Nairobi, College of Health Science Dept. of Community Health
31. Vintage Management Consultants
32. Young Women Christian Association (YWCA)
33. Promotion of rural Initiative and development Enterprise Ltd- Africa (PRIDE-Africa)
34. Wedco of Care Kenya
35. World Vision Kenya

Source: National Council of NGOs' Directory and the Association of Microfinance Institutions 2001 Annual Report.

APPENDIX III

List of MFIs in Kenya

1. Action Aid Kenya
2. African Community Development Center
3. Bahati Community Centre
4. Christian Children Fund
5. Christian Industrial Training Centers (CITCs)
6. Co-operative Bank of Kenya
7. Daraja Trust
8. Faulu Kenya Microfinance Programme
9. Improve your Business
10. Industrial and Commercial Development Corporation
11. Informal Business Advisory Agency Center
12. Initiative of Marianist to Assist the needy
13. Jitegemea
14. Kenya Commercial Bank Ltd. Special Loan
15. Kenya Ecumenical Church Loan Fund
16. Kenya Industrial Estates
17. Kenya Rural Enterprise Programme (K-REP)
18. Kenya Small Traders and Entrepreneurs Society
19. Kenya Organization of Micro and Medium Enterprise
20. Kenya Women Finance Trust
21. Kolping Organization of Kenya
22. Meru District Development Office
23. Ministry of Finance, Rural Enterprise Fund
24. National Council of Churches of Kenya, Embu
25. National Council of Churches of Kenya, Kakamega
26. Nyahururu District Trade Office
27. Partnership for Production/Kenya (PFP/K)
28. Plan International, Embu

29. PCEA Chogoria Hospital
30. Plan International, Maua
31. Redeemed Gospel Church Inc.
32. Rural Enterprise AS Community Help (REACA)
33. Rural Initiative Development Enterprise
34. Small Enterprise Credit Association
35. Small Enterprise Finance Company
36. Small and Micro Enterprise Programme (SMEP)
37. St. John's Community Center
38. Tototo Home Industries
39. Undugu society of Kenya
40. University of Nairobi, College of Health Sciences Dept. of Community Health
41. Vintage Management Consultants
42. Young Women Christian Association (YWCA)
43. Promotion of rural Initiative and development Enterprise Ltd- Africa (PRIDE-Africa)
44. Wedco of Care Kenya
45. World Vision Kenya

<u>Source: National Council of NGOs' Directory and the Association of Microfinance Institutions 2001 Annual Report.</u>