

**THE EFFECT OF CREDIT REFERENCE BUREAU SERVICE ON
FINANCIAL PERFORMANCE OF DEPOSIT TAKING
MICROFINANCE INSTITUTIONS IN KENYA**

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**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT
OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE
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DECLARATION

STUDENT DECLARATION

I Emily Kago, declare that this project is my original work and that it has never been presented to any other college, institution or university other than University of Nairobi for academic credit.

Signature Date

Emily Kago

D61/79132/2012

SUPERVISOR DECLARATION

This research project has been submitted for examination with my approval as the University of Nairobi supervisor.

Signature Date

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DEDICATION

I dedicate this project to my loving husband Newton, and my two daughters Sarah and Esther for their encouragement throughout my course.

ACKNOWLEDGEMENTS

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ABSTRACT

The research investigate the effect of credit reference bureau service on financial performance of deposit taking microfinance institutions in Kenya. A credit reference Bureau is a company that collects information from various sources and provides consumer credit information on individual consumers for a variety of uses. It is an organization providing detailed information on person's credit history, including information on their identity, credit accounts and loans, bankruptcies and late payments and recent inquiries. The study reviews literature on financial performance and credit reference bureau and theoretical framework which consists of theories of financial performance in relation to credit reference bureau. This study employed descriptive design that aims at establishing the effect of credit reference bureaus on the on financial performance of Deposit taking microfinance institutions in Kenya. Target population was 9 deposit microfinance institutions registered by the Central Bank of Kenya at 8th April 2013. The study used secondary data available from the financial statements of the target population. The annual report and accounts for the last five years from 2009 – 2013 and other available from the relevant sources. The study used event analysis to show return on assets on pre and post CRB implementation in 2009 which were presented on a graph and table for a period of 2 years before and 5 years after. The study employed linear regression model equation (2) to test Return on Assets and total number of defaulters at the CRBs per year. The study found strong credit information sharing is therefore essential not only to individual prosperity, but also to a country's overall economic growth. The study established that financial performance is rated with credit information sharing with the latter causing the former. The study also recommends that an open system needs to be enhanced to allow financial institutions as well as non-bank entities retailers, telecom and utility companies access to credit history of borrowers so as to know which clients to serve and what differential price to charge to cover risks.

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LIST OF ABBREVIATIONS AND ACCRONYMS

CBK	-	Central Bank of Kenya
CRB	-	Credit Reference Bureau
DTMs	-	Deposit Taking Microfinance Institutions
FSD	-	Financial Sector Deepening
KCB	-	Kenya Commercial Bank
KWFT	-	Kenya Women Finance Trust
MFI	-	Micro-financial institutions
NGO	-	Non-Governmental Organizations
ROA	-	Return on Asset
ROE	-	Return on Equity
SACCOs	-	Savings and Credit Cooperatives
SPSS	-	Statistical Package for Social Sciences

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Schreiner (2001) indicates that financial institutions are facing an enormous risk of non-performing loans, noting that larger loans have greater risk exposure, so the variable costs per dollar is higher. If lenders don't take extra care, there could be more loan defaults. To overcome this challenge, an institution is required to monitor the behaviour of borrowers. Thus, the idea of establishing credit Reference Bureau was conceived in order to enable financial institutions to determine credit worthiness of their borrowers and therefore reduce the loan default risk. In this regard credit Reference Bureau assists in first sharing information on default among financial institutions, secondly, eliminating corrupt borrowers – those with the aim of borrowing from different financial institutions with the aim of defaulting, thirdly to enhance financial performance of the financial institutions.

Credit reference Bureau allows for credit information sharing among the financial institutions. Credit information sharing plays asymmetry that exists between financial institutions and borrowers. The major benefit that financial institutions receive from credit Reference Bureau is that they are able to get credit information on prospective borrowers that will facilitate assessment of credit requests to mitigate risks of bad debts.

1.1.1 Credit Reference Bureau

A credit reference Bureau is a company that collects information from various sources and provides consumer credit information on individual consumers for a variety of uses.

It is an organization providing detailed information on person's credit history, including information on their identity, credit accounts and loans, bankruptcies and late payments and recent inquiries. Other information shared include: proven frauds and forgeries; cheque kiting; false declarations and statements; receiverships credit default and late payments; use of false securities and misapplication of borrowed funds. The borrower could be individuals, businesses, companies, sole proprietors and Government entities. This helps lenders assess credit worthiness, the ability to pay back a loan and can affect the interest rate and other terms of a loan.

The credit reference bureau plays three roles; first they enable lenders to lend to more and better risk clients. Secondly, credit bureaus reducing the borrowing cost by forcing creditors to be more competitive for good borrowers. Those lower costs for good credit risks motivate those borrowers to be more careful with repayment. Third, credit bureaus reduce the moral hazard by developing a credit culture where they operate as borrowers become aware that credit market becomes aware of their credit history and rewards or punishes them accordingly (Sullivan Sheffrin, 2003).

1.1.2 Financial Performance

Measuring is considered to be a simpler task despite its specific complications with many researchers preferring to use market measures and others opting for accounting measures (Waddock, 1997). Accounting measures capture historical aspects of firm performance and are subject to bias from managerial manipulation and thus produces incomparable results between firms because of the different accounting procedures applied. The

characteristics of different sectors and the risks associated with them should be taken into account when using accounting based measures (McGuire, 1988).

While market measures on the other hand are forward looking and focus on market performance and they are less susceptible to different accounting procedures and represent the investor's evaluation of the ability of the firm to generate future economic earnings. This type of measure is also successful at attaining the companies' future economic earnings rather than past performance. However, the shortcoming of this method is that the investors' perception of the company may not be enough to gauge firm financial performance (McGuire, 1988).

The use of the measure for financial performance is based on the thought that the measure can indicate an entity's performance that is not affected by the difference of the company size. The return on Asset measures not only profit aspects but also that relates to assets employed to generate the profit. If the ROA is broken down, there will be important two measures: profitability ratio (profit margin) and asset turnover ratio. It determines whether the company is able to generate an adequate return on its assets rather than simply showing robust return on sales. For Return on Equity (ROE), it doesn't say much about how well a company uses its financing from borrowing and bonds and such a company may deliver impressive ROE without actually being effective at using shareholders equity to grow the company. The researcher will use ROA to measure financial performance and the data will be obtained from the financial statements of the microfinance institutions.

1.1.3 The Effects of Credit Reference Bureau on Financial Performance

Research by Armstrong, 2008 based on information from several countries across the globe show that existence of credit registries is associated with increased lending volume, growth of consumer lending improved access to financing a more stable banking sector. Further, Hansen (2004), highlighted that many borrowers make a lot of effort to repay their loans, but do not get rewarded for it because this good repayment history is not available to the financial institution that they approach for new loans or credit. Whenever borrowers fail to repay their loans, financial institutions are forced to pass on the cost of defaults to other customers through increased interest rates and others fees. Credit reporting allows deposit taking microfinance institutions to better distinguish between good and bad borrowers. Angulin and Scapens (2000) in their study indicated that it is difficult to have accurate information on the financial ability of prospective borrowers and even more difficult to have accurate information on their credit history. This makes it extremely difficult for the lenders to assess the credit worthiness of potential borrowers and their ability to pay loans.

Recent theoretical research suggests a threefold effect of lenders exchanging information on the credit history of borrowers (Pagano and Jappelli, 1993). First, credit bureaus improve financial institutions knowledge about applicants, characteristics and permit more accurate prediction of repayment probability. This allows lenders to target and price their loans better, easing adverse selection problems. In this respect the benefit of establishing a credit bureau is greatest where each financial institution is confronted by a large number of customers on which it has no previous information. Second credit reference bureaus reduce the information rents that financial institutions could otherwise

extract from their customers. They tend to level the information playing field with the credit market and force lenders to price loans more competitively. Lower interest rates increase borrower's net return and argument their incentive to perform. Third, credit reference bureaus work as a borrower discipline device; every borrower knows that if he defaults his reputation with all other potential lenders is ruined, cutting him off from credit or making it much more expensive. This mechanism also heightens borrowers' incentive to repay, reducing moral hazard.

1.1.4 Microfinance Institutions in Kenya

The World Bank defines microfinance institutions as institutions that engage in relatively small financial transactions using various methodologies to serve low income household, microenterprises, small scale farmers and others who lack access to traditional banking services. They engage in micro credit or micro-finance. Micro-finance is banking the lowest amounts, bringing credit savings and other essential financial services within the reach of the millions of people who are too poor to be served by regular banks, in most cases they are unable to offer sufficient collateral. Microfinance is based on the premises that the poor have skills which remain unutilized or underutilized (Yunus, 2003).

Microfinance institutions in Kenya are registered under different Acts of parliament like: the Non-Governmental Organizations Coordination Act; the Building Societies Act; The Trustee Act; The Societies Act; The Companies Act; The Banking Act; The Kenya Post Office Savings Bank Act and Microfinance Act (www.treasury.go.ke). The MFIs

operation, business establishment, licensing and supervision are regulated by Microfinance Act, 2006 which became operational 2008 (www.centralbank.go.ke).

Although the Kenyan microfinance sector is one of the most vibrant in Sub-Saharan Africa with a diversity of institutional forms and a good infrastructure to serve the poor, microfinance activities were not regulated until 2006. The absence of regulation to some extent limited their financial performance. Institutions were set up easily without any barrier like minimum capital requirements. In this environment, the microfinance industry has developed and managed to attain reasonably high outreach. The Microfinance Act of 2006 and the supportive Deposit Taking Microfinance Regulations of 2008 have together paved the way for institutional transformation in Kenya. With the support of the Financial Sector Deepening (FSD) Kenya, Faulu Kenya and Kenya Women Finance Trust engaged in the process that led to their licensing as the pioneer deposit-taking microfinance institutions (DTMs) in Kenya. Both transformations were generally successful and have helped the two institutions to maintain better financial performance in the market. Schreiner (2001) indicates that financial institutions are facing an enormous challenge in terms of competition from other financial institutions. In addition, the transformations rose greater than anticipated organizational challenges. By start of 2009 when Kenya Women Finance Trust (KWFT) embarked on the transformation into a deposit-taking institution in earnest, it was the largest non-bank microfinance institution in Kenya.

1.2 Research Problem

Agency theory as posited by Hansen (2004), assumes that agency problems can be resolved with appropriately designed contracts by specifying the rights belonging to agents and principals. However, unforeseen events or circumstances require allocation of residual rights, most of which end up with the agents (managers), giving them discretion to allocate funds as they choose. The inability or difficulty in writing perfect contracts, therefore, leads to increased managerial discretion which encapsulates the same agency problem. Given the problems in mitigating agency problems through the use of contracts, scholars have suggested various governance mechanisms i.e. credit reference bureau to address the agency problems (Nawai 2010). Agency theory thus provides a basis for firm governance through the use of internal and external mechanisms (Allen and Santomero, 1998). The governance mechanisms are designed to protect shareholder interests, minimize agency costs and ensure agent-principal interest alignment (Hansen, 2004).

The microfinance sector in Kenya has experienced some major failures because of inadequacies in its operation, including credit reference bureau. Given its tremendous outreach in recent years, its future growth and sustainability depends on how well it is governed, the institutional framework (board size), legal framework, transparency, gender diversity, ethnic differences of board members etc (Yunus, 2003). If these corporate governance characteristics are not followed it will result into collapse and closure of these Microfinance institutions.

A number of empirical studies have been conducted on credit reference bureaus but most of them have not focused on its effect on financial performance. Gitahi (2013) studied the effect of credit reference bureau on the level of non-performing loans by the commercial

banks, Sigei (2010) studied on evaluating the effectiveness of credit reference bureau in Kenya the case of KCB, Nganga (2011) studied on shareholder perception of credit reference bureau service in Kenya credit market. All these studies have not focused on their studies on the effect if credit reference bureaus on financial performance of micro finance institutions in Kenya.

The existence of credit reference bureau leads to a better credit market, lower default and interest rates, improved profitability, general financial performance and increased competitiveness within the industry. None of the above studies have critically examined the relevance of credit reference bureaus and its effect on financial performance of Deposit taking microfinance institutions in Kenya. This research work attempts to fill this noticeable gap in literature and bring light on effect of credit reference bureau service on financial performance of Deposit taking microfinance institutions in Kenya.

1.3 Research Objective

To establish the effect of credit reference bureau service on financial performance of deposit taking microfinance institutions in Kenya.

1.4 Value of the Study

The study provides an opportunity to Microfinance institutions in Kenya on how they can fully utilize implementation of Credit Reference Bureau. It also serves as business re-engineering tool towards making faster and more accurate credit decision which in turn

yields value addition in providing financial solutions. It also contributes to the existing body of knowledge on Credit Reference Bureaus in Microfinance institutions in Kenya.

The study is of great help to stakeholders and the regulatory bodies in the following ways: To establish the role of Credit Reference Bureau on the growth of microfinance institutions, this has helped the stakeholders to do away with conflict of interest between the agents (managers) and principals (owners) of the institution.

To highlight the successes and challenges of Credit Reference Bureau in Microfinance Institutions and thereby helping policy makers to make informed decisions. Because of the formation of their boards, policy makers are able to detect loopholes within the management of the institution and thus advice the Microfinance Institutions or take further action and additionally the board's existence encourages faster growth of the Microfinance Institutions because it smoothens supervisory work.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter contains theories and literature review on studies that have been done on financial performance and credit reference bureau. This chapter begins with theoretical framework which consists of theories of financial performance in relation to credit reference bureau.

2.2 Theoretical literature

In an attempt to establish the effect of credit reference bureau service on financial performance of deposit taking microfinance institutions in Kenya, this study has been guided by adverse selection theory, moral hazard theory, information sharing theory and credit rationing theory.

2.2.1 Adverse Selection Theory

Stiglitz and Weiss (1981) originate the paper of adverse selection theory of credit markets. The theory rests on two main assumptions: that lenders cannot distinguish between borrowers of different degrees of risk, and that loan contracts are subjects to limited (i.e. if project returns are less than debt obligations, the borrower bears no responsibility to pay out of pocket). This analysis is restricted to involuntary default, i.e., it assumes that borrowers repay loans when they have the mean to do so. In a world with simple debt contracts between risk-neutral borrowers and lenders, the presence of limited liability of borrowers imparts a preference for risk among borrowers, and a corresponding

aversion to risk among lenders. This is because limited liability of borrowers implies that lenders bear all the downside risk.

On the other hand, all returns above the loan repayment obligation accrue to borrowers. Raising interest rates then affects the profitability of low risk borrowers disproportionately, causing them to drop out of the application pool. This leads to an adverse compositional effect higher interest rates increase-the riskiness the average riskiness of the applicant pool at a very high Interest rates, the only applicant are borrowers who could potentially generate very high return (but presumably with small probability). Since lenders' preference over project risk run counter to those of borrowers, they may hold interest rates at levels below market-clearing and ration borrowers in order to achieve a better composition and lower risk in their portfolio. Excess demand in the credit market may persist even in the face of competition and flexible interest rates.

In the adverse selection theory, the interest rate may not raise enough to guarantee that all loan applicants secure credit, in times when loanable funds are limited. In general, the volume of credit and level of effort is less than the first-best. Borrowers who have greater wealth to put as collateral obtain cheaper credit, have incentives to work harder, and earn more income as a result. Existing asset inequalities within the borrowing class are projected and possibly magnified into the future by operation of the credit market, a phenomenon that may cause the persistence of poverty. By exchange information about their customers banks can improve their knowledge of applicants' characteristics and behavior. In Principles, this reduction of informational asymmetries can reduce adverse

selection problems in the lending, as well as change borrowers' incentives to repay, both directly and by changing the competitiveness of the credit market.

Information asymmetries are the main obstacle for MFIs to provide loans to clients. This finally result credit risk which is the one that negatively affect the performance of MFIs (Nawai 2010). Therefore efficient credit risk management is required. According to Silwal (2003) to minimize these problems financial institutions usually requires business proposal, borrower past credit information and collateral before approving the loan. MFIs also offer credit through group-based lending method to mitigate adverse selection and to replace the collateral requirement.

Pagano and Jappelli (1993) show that information sharing reduces adverse selection by improving MFI's information on credit applicants. In their model, each bank has private information about local credit applicants, but has no information about non-local applicants. If MFIs exchange information about their client's credit worthiness, they can assess also the quality of non-local credit seekers, and lend to them as safely as they do with clients. Information sharing can also create incentives for borrowers to perform in line with MFIs' interest. Klein (1982) shows that information sharing can motivate borrowers to repay loans, when the legal environment makes it difficult for banks to enforce credit contracts. In his model borrowers repay their loans because they know that defaulters will be blacklisted, reducing external finance in future.

2.2.2 Moral Hazard Theory

Moral hazard refers to the risk that a party to a transaction has not entered into the contract in good faith, has provided misleading information about its assets, liabilities or credit capacity, or has an incentive to take unusual risks in a desperate attempt to earn a profit before the contract settles. Problems of moral hazard in financial institutions were evident at many stages of recent financial crisis. (Myerson, 2011).

Economists argue that this inefficiency results from information asymmetry. If MFIs could perfectly observe the actions of their clients, they could deny coverage to clients choosing risky actions, allowing them to provide thorough protection against borrowings without encouraging risky behavior. However, since MFIs cannot perfectly observe their clients' actions, they are discouraged from providing the amount of protection that would be provided in a world with perfect information (Hansen, 2004).

The moral hazard problem implies that a borrower has the incentives to default unless there are consequences for his default unless there are consequences for his future applications for credit. This result from the difficult lenders have in assessing the level of wealth borrowers will have accumulated by the date on which the debt must be repaid, and not at the time of application. If the lenders cannot assess the borrower's wealth, the borrower will be tempted to default on the borrowing. Forestalling this, lenders will increase rates, leading eventually to the breakdown of the market. (Alary, 2001).

Nyman (2010), suggests that two types of moral hazard exist: efficient and inefficient moral hazard. Efficient moral hazard is the viewpoint that the over consumption of

borrowings brought forth by MFIs does not always produce a welfare loss to society. Rather, individuals attain better health through the increased consumption of medical care, making them more productive and netting an overall benefit to societal welfare.

2.2.3 Information Sharing Theory

Research on information sharing is relatively recent and growing. Earlier papers analyze the effect of information sharing in a market with asymmetric information, either moral hazard or adverse selection (Ghrig, 2005). In moral hazard setups, information sharing may provide borrowers with higher incentives to perform; because information becomes available to competitors, borrowers are happy to perform better because they no longer fear being held up by the lender monopolist (Padilla, 1997). Second, borrowers do not want to default, because this will be publicly known; when default information is shared, borrowers will face an increase in interest rates and a decrease in access to finance not only by the current financial institution, but by the rest of the financial institutions in the market. This is called disciplinary effect. (Padilla, 2000).

Providing detailed information on person's credit history, including information on their identity, credit accounts and loans, bankruptcies and late payments and recent inquiries. Other information shared include: proven frauds and forgeries; cheque kiting; false declarations and statements; receiverships credit default and late payments; use of false securities and misapplication of borrowed funds.

Moreover, information sharing resolves adverse selection problems when financial institutions have extant information advantage, as in Pagano (1993) and Padilla (2000).

By sharing information, financial institutions may learn about those goods and bad borrowers of the competitor financial institutions who exogenously switched from previous financial institutions. Gehrig and Stenbacka (2001), however, identify a dark side of information sharing. Rather than starting with ex-ante informational advantage, their adverse selection model considers a two-period competition with symmetric knowledge in period one. In their location model, when banks have less incentives to acquire information for too many customers in period one, when they know they will have to compete away rents on them by sharing information in period two. They show that if information about borrowers' true becomes known to other banks, second-period competition will be higher and first-period interest rates will have to go up. As a result, information sharing can lead to welfare losses.

However, they assume that all characteristics about true types can be revealed to the outside MFIs. In contrast, we distinguish between information that can be shared (hard) and information that cannot (soft), relationship specific information. Hauswald and Marquez (2003) show that information processing, providing the screening MFIs with more informational advantage, will safeguard it from competition allowing to earn rents. Advances in the screening technology, therefore, will increase returns from screening. Access to that same information, on the other hand, levels the playing field for MFIs and erodes their rents due to increased competition. Thus, technological progress that allows for easier access to the incumbent's information will decrease the returns to investing in such information.

2.2.4 Credit Rationing Theory

This theory was introduced by Freimer and Gordon (1965) and compressively by Stiglitz and Weiss (1981). According to the seminal paper by Stiglitz and Weiss said that unsatisfied agents are borrowers. Asymmetric information leads to credit rationing, as lenders cannot distinguish between high quality and low quality borrowers. However, this dominate view is not without criticism. In particular De Meza and Webb (1987) vigorously contest this result. They show that asymmetric information in credit markets can lead to the inverse result which is an excess of credit (over lending).

Financial institutions because they screen and monitor borrowers more efficiently than other investors can (Allen and Santomero, 1998). They are specialized in gathering private information and treating it (Freixas and Rochet, 1999). Managing money and deposit accounts, MFIs own highly strategic information on firms' receipts and expenditures as well as the way that firms develop (Diamond and Rajan, 2001). Despite this plethora of information, relationships between bankers and firms are not perfect. Financial institutions suffer from informational asymmetries (Freixas and Rochet, 1999) such that evolution of prices (interest rates) cannot clear the credit market.

The more interesting form of credit rationing is equilibrium rationing, where the market had fully adjusted to all publicly, i.e. why Financial institutions ration credit free, available information and where demand for loans for a certain market interest rate is greater than supply. Stiglitz and Weiss (1981) proved that credit rationing occurs if banks charge the same interest rate to all borrowers, because they cannot distinguish between

borrowers and screening borrowers perfectly is too expensive. Both assumptions are very simplifying and do not occur in this manner in the real world. MFIs are usually able to distinguish their borrowers up to a certain degree. Moreover, banks face more than only two types of borrowers. Financial institutions usually charge more than just one interest rate to all customers. High-risk borrowers pay a higher interest rate and credit rationing is less likely. However, financial institutions cannot distinguish borrowers perfectly and screening them perfectly is impossible. Thus, credit rationing may occur.

According to Stiglitz and Weiss (1981) credit rationing still occurs if financial institutions require collateral. They argue that low-risk borrowers expect a lower rate of return on average. Thus, they are less wealthy than high-risk borrowers on average after some periods. Low-risk borrowers are therefore not able to provide more collateral. Increasing collateral requirements may have the same adverse selection effect as a higher interest rate. Instead Bester (1985) argues that Financial institutions only offer contracts in which they simultaneously adjust interest rates and collateral requirements. He proved that there is always a combination of interest rate and collateral requirements so that credit rationing does not occur.

2.3 Determinants of Financial Performance of MFIs

For a long time, financial performance has been perceived only through its ability to obtain profits. This changed over time, today the concept of performance having different meanings depending on the user perspective of financial information. A company can be categorized as global performance if it can satisfy the interests of all stakeholders:

managers are interested in the welfare and to obtain profit, because their work is appreciated accordingly; owners want to maximize their wealth by increasing the company's market value (profit); current and potential shareholders perceive performance as the company's ability to distribute dividends for capital investment, given the risks they take; commercial partners look for the solvency and stability of the company; credit institutions want to be sure that the company has the necessary capacity to repay loans on time (solvency); employees want a stable job and to obtain high material benefits; the state seeks a company to be efficient, to pay its taxes, to help creating new jobs (Reily, 1997; Fabozzi, 1995).

Companies' management use financial indicators to measure, report and improve its performance. It has been proved that in order to obtain a global situation of an economic entity at a specific moment it's necessary that the evaluation to be based on a balanced multidimensional system which includes both financial ratios and non-financial indicators. Scientific literature classifies the economical results of a company into classic and modern indicators of financial performance. The disadvantage of using classic indicators is that their use provides information regarding the performance of the company from the past (Bernardin and Russel, 2009). These indicators do not take into account the cost of capital, showing only the results of using capital. Classic indicators include the rates of return (ROA, ROE and ROI), gross profit margin, net profit margin, debt ratio, current ratio, acid test ratio. Modern indicators are related to the concept of creating value and for this reason are regarded as more relevant than classical indicators.

Through this type of indicators the performance can be expressed more easily in terms of shareholders, but the obtained results are not very relevant for other partners of the company. Stern Stewart consulting company proposed new performance indicators, based on value added: economic value added (EVA) and market value added (MVA). Boston Consulting Group and HOLT Value Associates in Chicago promoted as efficiency indicators TSR (Total Shareholder Return) and rate of return on cash flow - CFROI (Cash Flow Return on Investment). Applied Finance Group proposed economic margins - EM (eng. Economic Margin) as a means of measuring performance (Frank & Goyal, 2007). Other modern financial ratios used for the evaluation of corporate financial performances are: profit per share (EPS), price/income (PER), the market value ratio (MBR), dividend yield. A growing concern in recent studies has been observed, in finding non-financial means to measure the financial performance. This type of measurement is considered to be a more efficient way to define enterprise performance, putting together more important parts of the organization such as quality management, quality of intellectual capital (Aburub, 2012).

2.4 Empirical Review

Several studies have been undertaken to identify and validate the effect of credit reference bureau service on financial performance of deposit taking microfinance institutions but according to Angulin and Scapens (2000), there has been no pattern to defining and adopting indicators and constructs for the credit reference bureau service on financial performance.

2.4.1 International Evidence

Many studies have illustrated how comprehensive information helps lenders better predict borrower default. Herausgeber (2001) observed that the use of credit information systems has become a topic of analysis and promotion with international organizations and national governments. He states that one of factors limiting the access to credit for microenterprises is the lack of information on the risk that they represent to the financial intermediaries. As a result, the commercial banks need to make a bigger effort to complete the information they receive in order to make decisions over credit requests they receive in order to make decisions over credit requests they receive, increasing their operational costs, which are generally transferred to their customers directly.

A study carried out by Barron and Staten (2003) showed that lenders could significantly reduce their default rate by including more comprehensive borrower information in their default prediction models. The trade balance indicates the redistribution of wealth among countries and is a major channel through which the macro-economic policies of a country may affect another country.

Mugendawala (2010) carried out a study to investigate the effect of credit risk on interest rate spreads in Uganda for the period 1981-2008, while controlling for macroeconomic factors (Inflation, Liquidity, T-bill rate) and client-bank relationship. This was accomplished using a modern econometric technique that was adopted and used on Ugandan macroeconomic data obtained from statistical publications of Bank of Uganda and IMF. E-views 3.0 statistical package was used in estimating the regression model. The study findings reveal that Credit risk, Liquidity, and the Treasury bill rate

have a negative relationship with the interest rate spreads in Uganda, while inflation was found insignificant in explaining the high interest rate spreads. On the basis of these findings, it is recommended that while there is still need for more investment in ensuring macroeconomic stability, there is greater need for capacity building within the individual commercial banks' human and technological resources for better credit risk assessment and management. Moreover, it is imperative that commercial banks reengineer their credit risk control processes by moving from their traditional mechanisms used to control credit risk to loan portfolio restructuring, loan sales and debt-equity swaps. Overall, the study recognizes the importance of a multidimensional approach to any policies directed at tackling the problem of the high interest rate spreads in the Uganda's Banking system.

2.4.2 Local evidence

Nganga (2011) carried out a study on shareholder perception of credit reference bureau service in Kenya credit market. The research methodology was by constructing a Lerner index based on loan repayment, efficiency and financial performance. The empirical investigation is based on data from thirty six Microfinance Institutions for the period 2010-2011. The study revealed that many of the borrowers do not want to be listed by credit reference bureaus and could try as much as possible to service their credit facilities so as to protect their reputation.

Wanjiku (2012) carried out a study on the effect of financial regulation on financial performance of deposit taking microfinance institutions (DTMs) in Kenya. The research design was both cross sectional and descriptive survey method. The target population in

this study was the 6 deposit-taking microfinance institutions in Kenya. The study collected both primary and secondary data. The primary data was collected using semi-structured questionnaires and the secondary data was collected from the financial statements of the DTMs for the period 2005-2011. The study concludes that the supportive Deposit Taking Microfinance Regulations of 2008 led to the improvement in financial performance of DTMs. The regulations lead to increase in the value of loans outstanding, total assets of DTMs, the profit and shareholders' equity of DTMs. However, the DTMs encounter challenges such as high costs of transformation, high costs of operation, licensing costs and stiff competition from other financial institutions.

A study by Gitahi (2013) on the effect of credit reference bureau on the level of non-performing loans in the commercial banks in Kenya by analyzing data from financial statements from these banks for a period of six years (2007 – 2012), by adopting an event study research design and use of regression analysis method. The target population consisted of all commercial banks in Kenya. The research found that credit reference bureaus have an effect on non-performing loans in that there was an average reduction of 4% on the level of non-performing loans, in the years after introduction of credit reference bureaus, that is, 2010-2012. The study also concluded that there is an inverse relationship between the number of credit checks done by the credit reference bureaus and the level of non-performing loans.

On examining the relevance of credit reference bureaus and its effects on the financial performance of banks in Kenya Alloyo (2013) in his study adopted a descriptive design

and used secondary data in analysis. The target population consisted of 44 banks. The research findings showed that before commissioning of credit reference bureaus the semi-annual financial performance of banks was fairly constant. However the financial performance increased slightly with commencement of credit reference bureaus. The findings also established that consumers and lenders find the credit reference bureaus useful in the financial industry in Kenya which will lead to a bigger credit market, lower default and interest rates, improved profitability for the financial institutions, increase price competitiveness of credit facilities, instill good credit behavior among lenders, improve pool of borrowers, expansion of lending and help improve access to credit in Kenya.

2.5 Summary

Credit reference services from the studies reviewed remains an important tool to reduce risk of defaults for financial institutions and it has been highlighted clearly that is a good tool for managing risk in financial organizations. From the review literature most of studies have focused their research on banks as major lending institutions but none has focused on the effect of credit reference bureaus on financial performance of microfinance institutions.

All these studies found the existence of credit reference bureau leads to a better credit market, lower default and interest rates, improved profitability, general financial performance and increased competitiveness within the industry none of the above studies have critically examined the relevance of credit reference bureaus and its effect on on

financial performance of Deposit taking microfinance institutions in Kenya. Credit reference bureaus have an effect on non-performing loans in that there was an average reduction of 4% on the level of non-performing loans, in the years after introduction of credit reference bureaus. The study revealed that many of the borrowers do not want to be listed by credit reference bureaus and could try as much as possible to service their credit facilities so as to protect their reputation.

From the review literature most of studies have focused their research on banks as major lending institutions but none has focused on the effect of credit reference bureaus on financial performance of microfinance institutions. This research seeks to establish the effect of credit reference bureaus on financial performance of Deposit taking microfinance institutions in Kenya to fill the gap left and this sub-sector greatly contributes to the growth of the Kenyan economy. The knowledge of this information shall be used in data collection so as to meet the objective of the study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was used in this study to find answers to research objective. In this chapter, the research methodology has been presented in the following order, research design, target population, sampling procedure, data collection methods, instruments of data collection and finally data analysis. The following sections provide a detailed description of the methodology that was used in this study.

3.2 Research Design

According to Mugenda and Mugenda (2003), descriptive research studies are based on some previous understating of the nature of the research problem. This study employed descriptive design that aims at establishing the effect of credit reference bureaus on the on financial performance of Deposit taking microfinance institutions in Kenya. This is because the study sought to establish a relationship between two variables. Descriptive designs result in a description of the data, either in words, pictures, charts, or tables, and indicate whether the data showed statistical relationships or is merely descriptive. A census survey based the registered microfinance institutions by Central Bank of Kenya. The research relied on secondary data.

The study employed both quantitative method through analysis of the financial statements using various models and ratios to provide predominantly quantitative data to the study. Quantitative data enabled for a more in-depth analysis of the research problem.

3.3 Population

Target population can be defined as a complete set of individuals, cases/objects with some common observable characteristics of a particular nature distinct from other population. According to Mugenda and Mugenda (1999), a population is a well-defined as a set of people, services, elements and events, group of things or households that are being investigated.

Target population was 9 deposit microfinance institutions registered by the Central Bank of Kenya at 8th April 2013 (Appendix I) under Microfinance Act 2006, so it was a census survey.

3.4 Data Collection

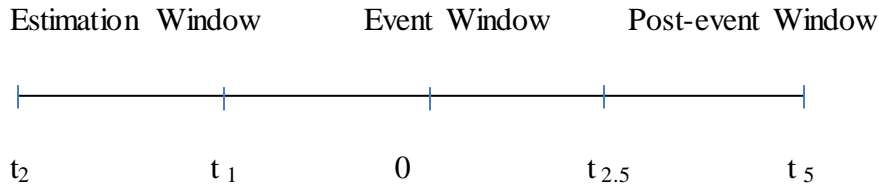
The study used secondary data available from the financial statements of the target population. The annual report and accounts for the last five years from 2009 – 2013 and other available from the relevant sources. The data to be extracted included: portfolio risk, provision on loans and advances and return on assets from the published reports on the microfinance institutions.

The study used event analysis to show return on assets on pre and post CRB implementation in 2009 which were presented on a graph and table for a period of 2 years before and 5 years after. The period of 7 year is believed to be adequately lengthy for the estimation of the model with better accuracy, and it was considered long enough to cover the ROA and CRB implementation. The time for the event study was then determined as t

= - 2 years to $t = +5$ years relative to the event date $t = 0$. The study aimed to find out whether the event had any impact on the ROA.

Hence time (t) was given as:

$t = -2$ years $+5$ years



The event of interest in the study was the ROA and the event window included the date of the CRB implementation. The event date was the CRB implementation and the time period around the event date was used to aggregate abnormal returns on the ROA. The announcement date were defined as the last ROA trading day before the actual CRB implementation. This assumed that the information was known to the market before trading closed on the previous day and therefore could influence ROA; otherwise, any reaction could happen only on the date of CRB implementation (day 0). Since it was not be impossible to distinguish between the two possibilities, any effect of the announcement is assumed to occur on the CRB implementation date.

Event Study proceeds as following:

1. ROA for deposit taking microfinance institutions was collected from 2 years before CRB implementation and 5 years after CRB implementation, being the event period -2 years to + 5year of 7 the CRB implementation period.

2. The ROA was calculated for deposit taking microfinance institutions before and after CRB implementation of the event period for 7 years.
3. A market model analysis was performed; ROA being the dependent variable and total number of defaulters at the CRBs per year is the independent variable before and after CRB implementation. There after a linear regression is conducted.

3.5 Data Analysis

Data analysis involves organizing, accounting for and explaining the data; that is, making sense of the data in terms of respondents' definition of the situation noting patterns, themes, categories and regularities (Mugenda and Mugenda, 2003). Data analysis was involved preparation of the available data that is, coding, editing and cleaning of data, so that it could be processed using SPSS software. The coded data was entered into SPSS program hence analyzed. There are normally two main parts in this section as shown below.

3.5.1 Conceptual Model

This takes the form of a mathematical function:

$$Y = f(x_1) \quad (1)$$

Financial Performance = f (Credit Reference Bureau)

In this study, independent variable is the total number of defaulters recorded by CRB per annum and dependent variable is return on equity. The financial performance is the return on assets of the MFIs. The model is borrowed from the study of Freimer and Gordon (1965) and compressively by Stiglitz and Weiss (1981). According to the paper

asymmetric information leads to credit rationing, as lenders cannot distinguish between high quality and low quality borrowers. However, this dominate view is not without criticism.

3.5.2 Analytical Model

This is the algebraic expression of the conceptual model. It has the constant term, the coefficients, and the error term. It is illustrated below:

$$Y = \alpha + \beta_1 X_1 + e \quad (2)$$

Where Y = Financial performance

Financial performance = Return on Assets

x_1 = The total number of defaulters at the CRBs per year

α = Constant which defines performance without inclusion of independent variable

β_1 = Regression coefficient defines the amount by which Y is changed for every unit change in independent variable

e = Error term

The study employed linear regression model equation (2) to test Return on Assets and total number of defaulters at the CRBs per year. The significance of each independent variable was tested with t and f-tests at a confidence level of 95%. In this study independent variable is the total number of defaulters recorded by CRB per annum and dependent variable was return on Assets.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter presents the data analysis and interpretation of the results. It provides various sections. Section 4.2 provides the Summary Statistics, Section 4.3 provides the Empirical Model of the study, Section 4.4 presents Discussion, and finally Section 4.5 provides Summary of the chapter.

4.2 Summary Statistics

The study, solely, adopted the use of secondary data sources. The information on financial performance was captured from Kenya National Bureau of Statistics (KNBS) offices while data on credit information sharing data was captured from Central Bank of Kenya (CBK). Semi-annually data was taken to create room for more data points given that the credit information sharing has been undertaken for only four years in Kenya. The study used descriptive statistics (involving mean, standard deviation and quartiles), regression analysis and mean differences through t-tests to establish the effect of credit reference bureau service on financial performance of deposit taking microfinance institutions in Kenya.

Table 4.1: Return on Assets (ROA)

Microfinance	2009	2010	2011	2012	2013
Faulu Kenya DTM Limited	0.1	0.3	0.2	0.52	0.7
Kenya Women Finance Trust DTM Limited	4.3	1.6	1.5	0.93	0.94
SMEP Deposit Taking Microfinance Limited	5	0.3	0.9	2.24	0.69
Remu DTM Limited			11.6	8.6	6.3
Rafiki Deposit Taking Microfinance			3.5	2.4	0.35%
UWEZO Deposit Taking Microfinance Limited			13.6	12.3	11.3
Century Deposit Taking Microfinance Limited			1.43	2.3	3.2
SUMAC DTM Limited	-	-	-	-	-
U&I Deposit Taking Microfinance Limited	-	-	-	-	-
Total	9.2	1.6	27.53	21.5276	15.7566

Source: Researcher (2014)

The main objective of the study was to establish effect of credit reference bureau service on financial performance of deposit taking microfinance institutions in Kenya. Data was collected from 7 microfinance institutions which are involved in deposit-taking business making it 77.8% respond to data since unwillingness of U&I Deposit Taking Microfinance Limited and SUMAC DTM Limited to give data. The institutions are: Faulu Kenya DTM Limited, Kenya Women Finance Trust, Rafiki Deposit Taking Microfinance Ltd, Remu DTM Limited, SMEP DTM Limited, Uwezo DTM Ltd and Century DTM. In Kenya, credit information sharing is facilitated by credit information bureaus licensed by the CBK and involves both financial institutions and customers (both as individuals or institutions). In Kenya, there are two licensed credit reference bureaus, namely; CRB Africa which was licensed in 2010 and Metropol Ltd licensed in April 2011. However, the launch of credit information sharing was in July 2010. Therefore, to

bring out the effect of the two variables, the data collection covered the periods between 2009 and second semi-annual of 2013.

The data presented below shows that the minimum value of the credit information entries was 0 although this is attributed to the time of commissioning of the same by the CBK.

Table 4.2: Credit reference bureau service statistics

Period	Credit Record Entries	Cumulative Credit Record Entries	ROA Financial Performance (Million Ksh)
Jun-10	0	0	349,422
Sep-10	103,332	103,332	386,207
Dec-10	181,390	284,722	379,145
Mar-11	246,869	531,591	378,376
Jun-11	196,962	728,553	361,849
Sep-11	332,312	1,060,865	401,669
Dec-11	245,574	1,306,439	397,412
Mar-12	244,152	1,550,591	391,469
Jun-12	233,626	1,784,217	402,197
Minimum	0	-	322,757
Maximum	332,312	-	402,197
Mean	198,246	-	383,083
Standard Deviation	96,523	-	18,089
First Quartile	181,390	-	378,376
Second Quartile	233,626	-	386,207
Third Quartile	245,574	-	397,412

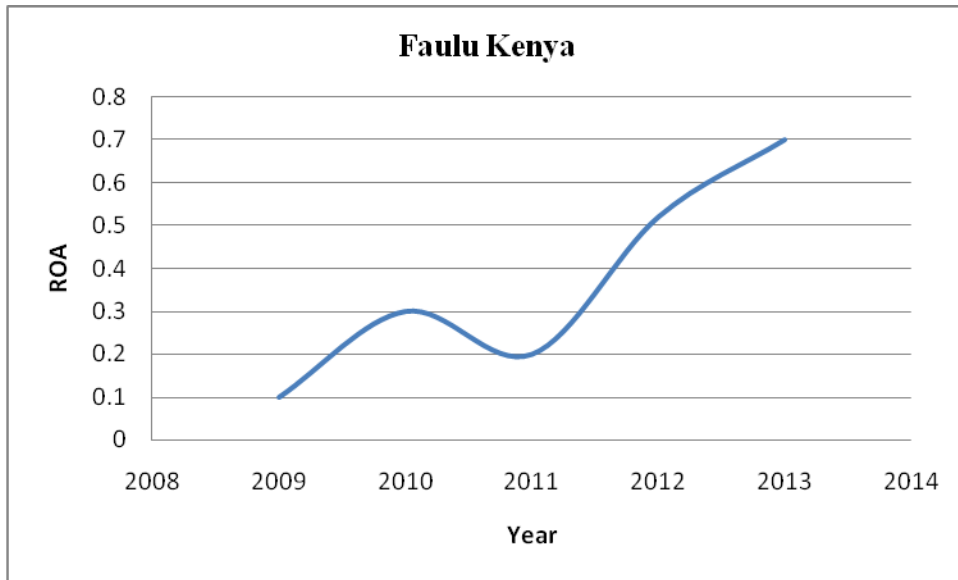
Source: Researcher (2014)

As at 30th September 2010, the credit reference bureaus (CRBs) had requested for 103,332 credit reports. During the semi-annual ending March 2011, the number of credit reports entries made stood at 531,591, which increased by 196,962 to 728,553 at end of June 2011 and subsequently increased by 332,312 to a total of 1,060,865 at end September 2011. This number increased by 245,574 in December 2011, 244,152 in the first semi-annual of 2012 and 233,626 in the second semi-annual to settle to a total of 1,784,217 credit information entries.

On financial performance, Table 4.1 shows that the minimum amount of financial performance stood at Ksh322,757,000,000 while the maximum was Ksh402,197,000,000. However, 75% of the semi-annuals' financial performance figure were at least Ksh397,412,000,000. Further, the data shows that on average, the financial performance stood at Ksh383,083,000,000.

Between, the first and second semi-annual of 2011, credit information sharing entries took a sharp dip which was followed by a slight decrease in financial performance recorded within the same period. Both variables rose third semi-annual of 2011 before a fall from the forth to first semi-annual of 2012, though semi-annually financial performance fell at a slower rate than credit information reports. These dynamics shows that the two variables were directly or positively related; both variables rising or falling.

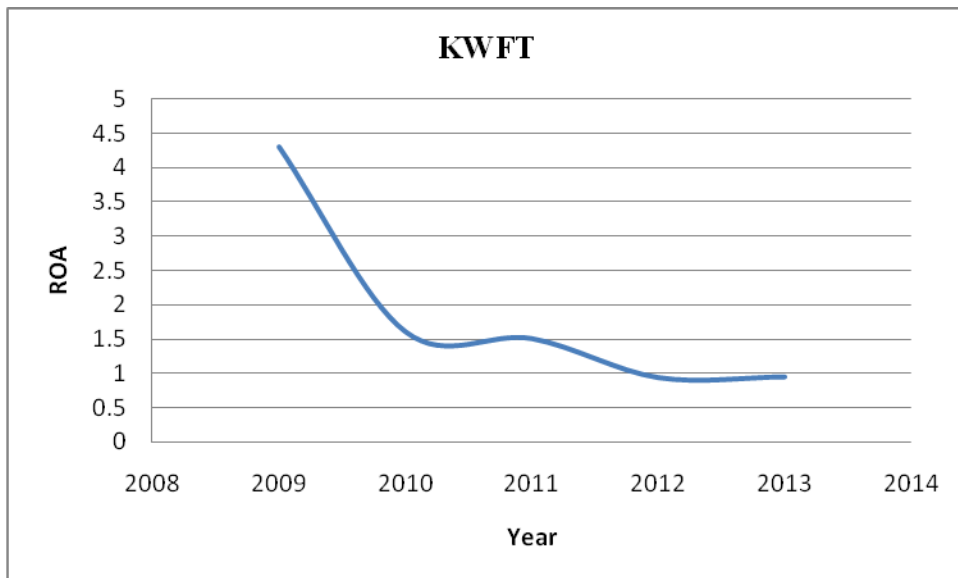
Figure 4.1: Event analysis of Faulu Kenya



Source: Researcher (2014)

The findings revealed that there was an increase in financial performance of Faulu Kenya as the ratio of ROA increased from -0.3 % in year 2010 to 0.7% in year 2013

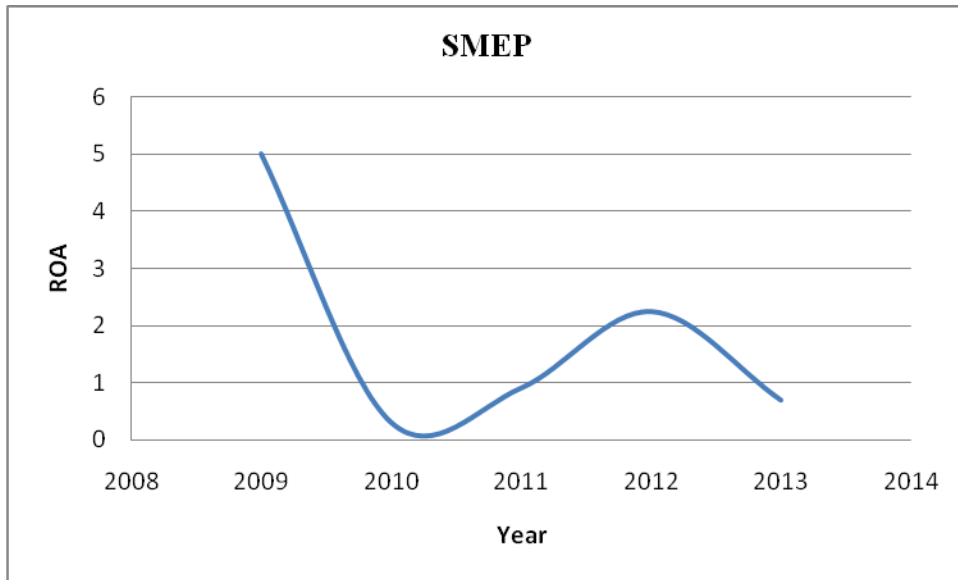
Figure 4.2: Event analysis of KWFT



Source: Researcher (2014)

Findings from KWFT reveal a negative trend with year 2009 having a highest return on assets of 4.3 in year 2009 which goes down to 0.94 in year 2013.

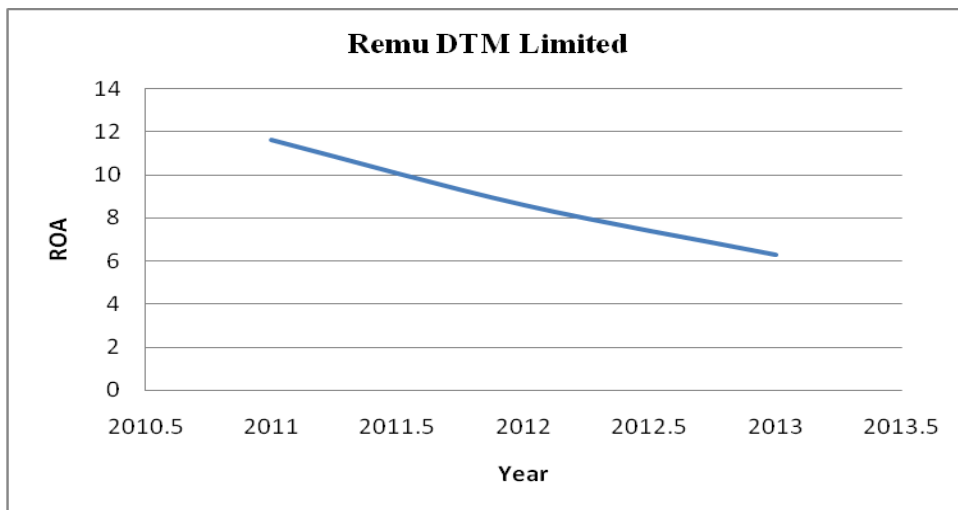
Figure 4.3: Event analysis of SMEP



Source: Researcher (2014)

The findings of SMEP revealed a decreasing trend in financial performance. Year 2009 saw SMEP have an ROA of 5, this has gone down to 0.69 in year 2013

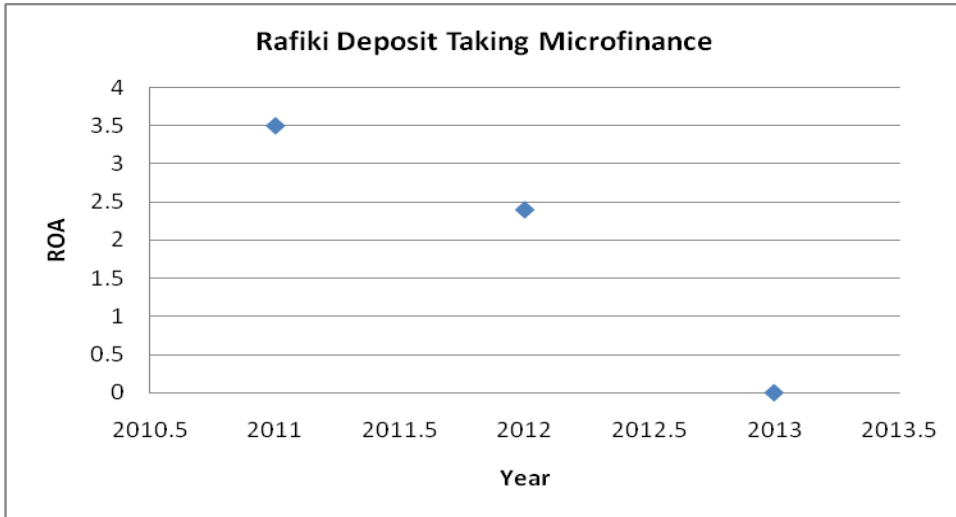
Figure 4.4: Event analysis of REMU DTM



Source: Researcher (2014)

For remu DTM there has been an increasing trend from 11.6 in year 2011 when it was incepted to 6.3 in year 2013

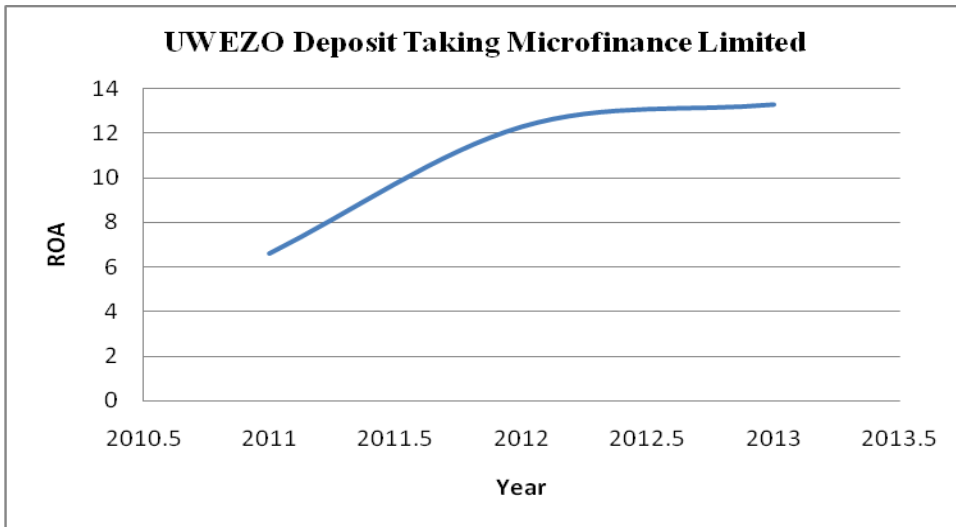
Figure 4.5: Event analysis of Rafiki DTM



Source: Researcher (2014)

Rafiki DTM show an increasing financial performance from 3.5 in year 2011 to 0.35 in year 2013

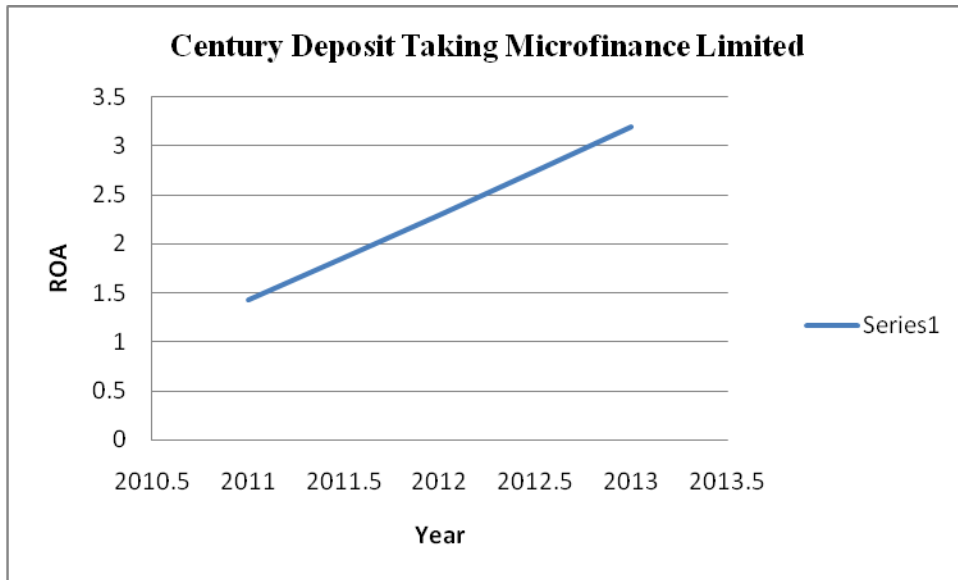
Figure 4.6: Event analysis of UWEZO DTM



Source: Researcher (2014)

UWEZO DTM show an increasing financial performance from 13.6 in year 2011 to 12.3 in year 2013

Figure 4.7: Event analysis of Century DTM



Source: Researcher (2014)

The findings revealed that there was an increase in financial performance of Century DTM from 1.43 in year 2011, 2.3 in year 2012 and then an increase in year 2013 to 3.2.

4.3 Empirical Model

The study conducted a linear regression analysis to establish the effect of credit reference bureau service on financial performance of deposit taking microfinance institutions in Kenya. The regression was of the form:

$$Y = \alpha + \beta_1 X_1 + e$$

Whereby financial performance signified annually ROA; β_0 the regression constant; β_1 regression coefficient; CIS is the annually credit information sharing records; while, ϵ is

the regression error term or the model's significance from Analysis of Variance (ANOVA).

Table 4.3: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.750a	.562	.500	1.2B	1.473

Source: Researcher (2014)

The study sought to establish the regression model significance, the data of which is presented in table above. From the regression model, a correlation coefficient value of 0.750 was established. This portends a very good linear relationship or dependence of financial performance on credit information sharing. A coefficient of determination (R-square) value of 0.562 was established. This underscores the fact that credit information sharing accounted for 56.2% changes in financial performance in Kenya. A Durbin Watson value of 1.473 shows that the data entered was devoid of autocorrelation among its residuals; a justification for linear regression analysis.

Table 4.4: Analysis of Variance (ANOVA)

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1.4	2	1.4	8.986	.020a
Residual	1.1	5	1.6		
Total	2.5	7			

Source: Researcher (2014)

Analysis of Variance was used to test the significance of the regression model as pertains to significance in the differences in means of the dependent and independent variables. The ANOVA test produced an f-value of 8.986 which was significant at 0.05 significance level ($p = 0.02$). This depicts that the regression model is significant at 95% confidence level; that is, has 2% probability of misrepresentation.

Table 4.5: Regression Coefficients

	Unstandardized		Standardized		
	Coefficients		Coefficients		
	B	Std. Error	Beta	t	Sig
(Constant)	3.5	1.02		34.7	0
Reports Recorded	140509.3	1.02E+10	0.75	2.998	0.02

a. Dependent Variable: ROA

The regression equation becomes:

$$Y = \alpha + \beta_1 X_1 + e$$

$$Y = 355,227,442,711 + 140,509.343 X_1 + 0.020$$

From the above regression model, in the absence of credit information sharing, financial performance would be Ksh355,227,442,711 which according to the descriptive data is slightly above its minimum value. This, thus, depicts that while the financial performance won't be zero.

However, the financial performance to changes in credit information sharing report is 140,509.343. This depicts that financial performance is multiplicities by 140,509.343 to

each unit increase in credit information sharing. A t-test value of 2.998 was established at $p = 0.020$ depicting that this relationship was significant.

4.4 Discussion

From the findings the credit reference is strongly related to financial performance. The trend line of financial performance and credit information reports shows that both variables rose and fell together, though, credit information sharing changed at higher rate than financial performance. This is further justified by a standard variation of 96,523 for credit information reports and 18,089 for the latter. These dynamics shows that the two variables were directly or positively related; however, though financial performance was not highly sensitive to changes credit reports entries or sharing. The findings show that credit information sharing accounted for 56.2% changes in financial performance in DTMFIs.

4.5 Summary

The findings of this research showed that most financial consumers do finance their personal projects through their personal funds or savings, family funds, money from friends and other means; very few actually do tend to the Bank. With regards to the organisations, they secure credit funds mostly from the Banks or Financial institutions in Kenya. Again, a little over half of all the consumer respondents had applied for loans or overdraft facility from their Banks.

CHAPTER FIVE

SUMMARY AND CONCLUSIONS

5.1 Introduction

This chapter presents summary and conclusion. This chapter provides various sections which include Section 5.2 include summary of the study, section 5.3 includes conclusion, section 5.4 presents limitations of the study and finally section 5.5 is on recommendations for further research.

5.2 Summary of the Study

Credit information sharing was launched in July 2010 and within the first semi-annual, 103,332 credit reports entries had been written. Though 1,784,217 credit information entries have been made (in the second year of the launch) and equal number shared, within the first year of the launch, 728,553 credit information reports had been written. On average, 198,246 credit reports entries made semi-annually. The first quartile data shows that 25% of the semi-annually entries averaged 181,390 credit reports while at least 75% of the semi-annually entries consisted of 245,574 credit records. Minimum amount of financial performance stood at Ksh322,757,000,000 while the maximum was Ksh402,197,000,000; on average, semi-annually financial performance stood at Ksh383,083,000,000.

The trend line of financial performance and credit information reports shows that both variables rose and fell together, though, credit information sharing changed at higher rate than financial performance. This is further justified by a standard variation of 96,523 for

credit information reports and 18,089 for the latter. These dynamics shows that the two variables were directly or positively related; however, though financial performance was not highly sensitive to changes credit reports entries or sharing. The findings show that credit information sharing accounted for 56.2% changes in financial performance in DTMFIs. Financial performance was higher after credit information sharing than before the same; Ksh349,422,000 compared to Ksh 378,376,000 after the credit information sharing. A t-significance value of $p < 0.001$ was established; depicting a significant difference in financial performance with credit information sharing resulting in enhanced economic growth.

5.3 Conclusion

Information is the lifeblood of the modern economy. However, before the second semi-annual of 2010, in Kenya, information about a business's or individual's credit track record was unavailable making borrowing of money difficult and interest rates high so as to offset the higher perceived risk. Credit information sharing helped correct this imbalance by allowing banks and other lending institutions to collect and share data on millions of potential borrowers, thus allowing lenders to gather information on the creditworthiness of each. By facilitating information sharing among lenders, credit bureaus has since 2010 with over 1,784,217 exchanges by 2012 enables lending institutions sort good borrowers from bad, price loans appropriately, decrease processing time and reduce screening and other transaction costs. By the same token, credit information sharing has also helped banks and other financial institutions recover loans. That is, when borrowers know that their credit information will be shared, they have an

additional incentive to pay. Good borrowers also benefit from lower interest rates, as lenders compete for their business. This has facilitated borrowing of money for business start-up or running which has highly reflected in the financial performance. This concurs with Jappelli and Pagano (2002) findings that bank lending is about twice as large in countries where credit information is shared, irrespective of the type of information exchanged.

Besides, strong credit information sharing is therefore essential not only to individual prosperity, but also to a country's overall economic growth. The study established that financial performance is rated with credit information sharing with the latter causing the former. Jappelli and Pagano (2002) asserts that information sharing is found in countries with higher financial performance, better law enforcement and poorer safeguards for creditor rights leading to higher bank lending and macroeconomic growth.

5.4 Limitation of the Study

The study faces limitations. Obtaining of data from the DTMFIs was a great challenge and the management in the institutions was uncooperative, however the researcher explained that the data that was to be obtained was for academic purpose only. In attaining its objective the study was limited to 7 DTMFIs which were registered with Central Bank for more than three year from whose data was sourced.

The study is also limited to the degree of precision of the data obtained from the DTMFIs financial reports. To mitigate the challenge, the study accepted a confidence level of 95%.

The study also faces challenges of time resources limiting the study from collecting information for the study particularly where the DTMFIs management delayed giving the DTMFIs financial reports. To mitigate this, the researcher made often follow up and enhance collection of sufficient data from the DTMFIs.

5.5 Recommendations for Further Studies

The study also recommends that an open system needs to be enhanced to allow financial institutions as well as non-bank entities retailers, telecom and utility companies access to credit history of borrowers so as to know which clients to serve and what differential price to charge to cover risks. To facilitate credit information sharing even more effectively, information access should be available at low or no cost.

The results of the study will be valuable to DTM organization in Kenya in getting reliable insights on impact of credit reference on financial performance. The study is useful to the management in that it provides an insight into improving organizational performance through credit reference. The study will broaden the knowledge on impact of credit reference on financial performance and provide a basis to academicians for future research.

The study recommends further research on ways in which financial performance of DTMs can be enhanced through credit reference. Exploration of ways in which financial performance of Kenyan DTMs can be enhanced through credit reference will supplement the findings of this study by enabling the government to structure a good economic environment for DTMs.

REFERENCES

- Alary, D. (2001). *Strategic default and penalties on the credit market with potential judgment errors*. EU working paper.
- Allen F, Santomero A., (1998). The theory of financial intermediation. *Journal of Banking and Finance*, 21, 1461-1485
- Allen F., Santomero A., (1998). The theory of financial intermediation. *Journal of Banking and Finance*, 21,1461 – 1485.
- Alloyo P.T. (2013). *The effect of credit reference bureaus on the financial performance of commercial banks in Kenya*. Unpublished MBA project: University of Nairobi.
- Angulin, D. & Scapens, R. (2000). Transparency, accounting knowledge and perceived fairness in UK universities' resource allocation: results from a survey of accounting and finance, *British Accounting Review*, 32(1), 1-42.
- Barron, J.M., Staken, M. (2003). *The value of comprehensive credit reports*. lessons from the US, Experience; Boston, MIT Press.
- De Meza D.E., Webb D.C., (1987). Too much investment: A problem of asymmetric information. *Quarterly journal of economics*, 102, 281 – 292.
- Freixas, X., Rochet, J., (1999). *Microeconomics of banking*. MIT Press, Cambridge (mass).
- Ghrig Z.J., (2005). Competition and disclosure incentives: An empirical study of HMOs. *Rand journal of Economics*. 12, 21 – 29..
- Gitahi, R.W. (2013). *The effect of credit reference bureaus on the level of non-performing loans in the Commercial Banks in Kenya*. Unpublished MBA project, University of Nairobi.

- Hansen J.M., (2004). *Insuring confidentiality of individual records in data storage and retrieval for statistical purposes*. AFPS proceedings of the November 2004 fall joint computer conference.
- Kallberg, J.G. and Udell, G.F. (2003). The value of private sector credit information. *Journal of Banking and Finance*.
- McGuire, J. (1988). Corporate social responsibility and firm financial performance. *The academy of management journal*, Vo. 31 No.4.
- Mugenda, A. and Mugenda, O. (2003). *Research Methods: Quantitative and Qualitative Approaches*. Acts Press, Nairobi.
- Nganga, M.M. (2001). *A study on stakeholder perception of credit reference bureau services in Kenya credit market*. Unpublished MBA project: University of Nairobi.
- Ngugi, R.W. (2001). *An empirical analysis of interest rate spread in Kenya*. Unpublished MBA project: University of Nairobi.
- Padilla A. (1997). *Endogenous communication among lenders and entrepreneurial incentives*. The review of financial studies 10(1): 205 – 236.
- Padilla, A.J. and Pagano, M. (1997). *Sharing default information as borrowers Discipline Device*, Industry Study Program Discussion paper No. 73, Boston university.
- Padilla, A.J., (2000). *Sharing default information as a borrower discipline device* *European Economic Review*.
- Pagan, M. (1993). Information sharing in the credit markets. *The journal of finance*, 43 (5): 1693 – 1718.

- Pagano, M. and Jappelli, P. (1993). *Endogenous Communication among lenders and Entrepreneurial Incentives*. *The review of financial studies* 10 (1) pp. 205 – 236.
- Pagano, M., Jappelli, T., (1993). Information sharing, lending and defaults: cross country evidence, *Journal of Banking and Finance*, 45 (2), 17 – 19.
- Schreiner, M. (2001), Aspects of Outreach: A framework for Discussion of the Social Benefits of Microfinance. *Journal of International Development*, 4(2), 1–9.
- Sigei, R.S. (2010). *Evaluating the effectiveness of credit reference bureau in Kenya*. The case of KCB. Unpublished MBA project, University of Nairobi.
- Stiglitz, J.E., Weiss, A. (1981). *Credit rationing in markets with imperfect information*: *American Economic Review*.
- Sullivan, A. Sheffrin, S.M. (2003). *Economics: Principles in action*. Upper Saddle River, New Jersey. Pearson Prentice Hall.
- Waddock, S.A., (1997). The corporate social performance, financial performance link. *Strategic management journal*, 18(4): 303 – 319.
- Yunus, M. (2003). *Expanding microcredit outreach to reach the millennium development*, international seminar on attacking poverty with microcredit. Dhaka, Bangladesh.

APPENDIX I: MFIS REGISTERED BY CENTRAL BANK

Faulu Kenya DTM Limited	P. O. Box 60240 – 00200, Nairobi
Kenya Women Finance Trust DTM Limited	P. O. Box 4179-00506, Nairobi
SMEP Deposit Taking Microfinance Limited	P. O. Box 64063-00620 Nairobi
Remu DTM Limited	P. O. Box 20833-00100 Nairobi
Rafiki Deposit Taking Microfinance	P. O. Box 12755-00400 Nairobi
UWEZO Deposit Taking Microfinance Limited	P. O. Box 1654-00100 Nairobi
Century Deposit Taking Microfinance Limited	P. O. Box 38319 – 00623, Nairobi
SUMAC DTM Limited	P. O. Box 11687-00100, Nairobi
U&I Deposit Taking Microfinance Limited	P.O. Box 15825 – 00100, Nairobi

Source: Central Bank (2014)