

**EFFECTS OF CREDIT RISK MANAGEMENT TECHNIQUES ON LOAN
PERFORMANCE IN MOI UNIVERSITY SACCO, ELDORET, KENYA**

BY

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DECLARATION

Declaration by Candidate

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DEDICATION

I dedicate this Thesis to mighty God, my dear mother Alice Cheptelmet, my wife Agnes Kirui and my children Eileen Chepkoech, Eilsha Kibet and Eliphaz Kiprono.

ABSTRACT

In performing lending business SACCOs are always keen on the rules, regulations, principles and procedures that should be followed before the loan is granted. Despite the development of roles of credit risks management programmes, availability of principles, rules and regulations; non-performing loans is still a major challenge in Co-operatives SACCOs. The study aimed to examine the credit risks management techniques on loan performance in SACCOs and assess whether the techniques are helpful in reducing bad loan performance in lending business. The study specifically analyzed the impact of interest rates fluctuation on loan repayment, the effect of repayment period on loan performance of a SACCO and influence of Collateral Securitization on loan performance. The study was guided by Default Risk Models and Credit Scoring Models. For the purpose of this study a case study research design was employed. The study targeted about 2,782 respondents drawn from Moi University Savings and Credit Cooperative Society. A sample size of 242 respondents was obtained using simple random sampling technique. This study employed the use of structured questionnaires and interview schedule as methods of data collection. Data collected was analyzed using descriptive statistics such as frequency and percentages. In addition, inferential statistics such as Pearson correlation and chi square were used. Findings showed that interest rates have a strong significant positive relationship with loan performance. It was further revealed that there was a negative relationship between loan performance and high interest rates and the relationship was significant. Findings revealed that there is positive relationship between good loan repayment and a long repayment period. This implies that repayment period of a loan affects loan performance of a SACCO. The study concludes that Poor lending procedures contribute to poor performance and generally collateral securitization is an important security in loan management in SACCO. SACCO should protect itself from unforeseen contingencies of loan default due to the fact that the future is uncertain. Use of professional staff, proper assessment of loan applications and proper supervision of credit follow up would reduce bad loan performance in SACCO.

TABLE OF CONTENTS

CONTENTS	Page
DEDICATION	iii
ABSTRACT	iv
LIST OF TABLES	viii
LIST OF FIGURES	x
ABBREVIATIONS AND ACRONYMS	xii
ACKNOWLEDGEMENT	xiii
CHAPTER ONE.....	1
INTRODUCTION	1
1.1 Overview of the Chapter	1
1.2 Background to the Study	1
1.3 Statement of the Problem	4
1.4 Objectives of the Study	5
1.4.1 The main Objective	5
1.4.2 Specific Objectives	5
1.5 Research Hypotheses	6
1.6 Significance and Justification of the Study	6
1.7 Limitations of the Study	7
1.8 Scope of the Study	7
1.9 Assumptions of the Study	7
LITERATURE REVIEW	8
2.1 Overview of the Chapter	8
2.2 Theoretical Review	8
2.2.1 Default Risk Models	8
2.2.1.1 Qualitative Model	8
2.2.1.2 Quantitative Models	9
2.2.2 Market Specific Factors	10
2.2.3 Credit Scoring Models	10
2.2.4 Evaluation of the legislation on Co-operative Savings and Credit Society (SACCOs).....	11
2.2.4.1 Objectives of SACCOs	13
2.2.4.2 Saving and Credit Co-operative Mission Statement	14
2.1.4.3 Core Activities of SACCOs.....	14
2.2.4.4 Lending policies.....	15
2.2.5 Overview of Risks	15
2.2.6 Types of Risks Absorbed by SACCOs	16
2.2.7 Credit Risk.....	19
2.2.7.1 Credit Risk Management.....	20
2.2.7.2 Importance of Credit Risk Management in Co-operative SACCOs.....	21
2.2.8 Techniques used in Credit Risk Management	21
2.2.9 Measurement of Credit Risk.....	24

2.2.10 How to Manage Credit Risk	25
2.2.11 Regulation Guidelines by SACCO Societies Regulatory Authority	26
2.3 Criticism of Credit Default Risk Model.....	27
2.4 Review of Empirical Studies	28
2.4.1 Interest Rates Fluctuation on Loan Repayment.....	28
2.4.2 Loan Repayment Period on Loan Performance of a SACCO	29
2.4.3 Collateral Securitization on loan performance	34
2.5 Conceptual Framework of the Study	36
2.6 Summary and Knowledge Gap.....	37
RESEARCH METHODOLOGY	38
3.1 Overview of the Chapter	38
3.2 Study Area.....	38
3.3 Research Design	38
3.4 Study Population and Sample.....	38
3.4.1 Target Population.....	39
3.4.2 Sample size determination	39
3.5 Sampling Techniques.....	41
3.6 Data Collection Methods	42
3.6.1 Primary Data.....	42
3.6.2 Secondary Data.....	42
3.7 Data Collection Instruments.....	43
3.7.1 Questionnaires	43
3.7.2 Interview Schedules	43
3.7.3 Credit and Financial Data Tables	44
3.8 Validity and Reliability of Research Instruments.....	44
3.8.1 Validity of Research Instruments	44
3.8.2 Reliability of Research Instruments.....	44
3.9 Pilot Testing	45
3.10 Data Analysis and Presentation	45
3.10.1 Descriptive Analysis	45
3.10.2 Inferential Statistical Analysis	46
3.11 Ethical Considerations	46
CHAPTER FOUR	47
RESEARCH FINDINGS	47
4.1 Overview of the Chapter	47
4.2 Socio-Demographic Characteristics of Respondents.....	47
4.2.1 Respondents Gender in Moi University SACCO	47
4.2.2 Age of the Respondents on CRMT in Moi University SACCO	48
4.2.3 Position of Respondents in the SACCO	48
4.2.4 Work Experience in the SACCO	49
4.2.5 Level of Education.....	50
4.3 Credit Investment Decision Making in SACCO	50
4.4 Loan Products Offered by SACCO	51
4.5 Identification of Credit Risk Management technique.....	51
4.5.1 High Interest Rates.....	51
4.5.2 Poor Regulation	52

4.5.3 Exchange Rate fluctuation	53
4.5.4 Weak Credit Management.....	53
4.5.5 Lack of Credit Reference Bureau	54
4.5.6 Poor Lending Policies	55
4.5.7 Customer over Committed Income	55
4.5.8 Poor Loan Appraisal	56
4.5.9 Undervalued Collateral Securitization	57
4.6 Effects of Credit Risk.....	57
4.6.1 Increased Returns.....	57
4.6.2 Undervalued Collateral Securitization	58
4.7 Correlation Results between Interest Rate and Loan Performance of SACCO	59
4.8 Effects of Loan Repayment Period on Loan Performance of the SACCO	59
4.8.1 Loan Repayment	59
4.8.2 Causes of Loan Default	60
4.8.3 Overall Loan Default Percentage.....	60
4.9 Credit Follow Up Contributes to Poor Performance	61
4.10 Liquidity and Credit Risks	62
4.11 Waiting Period and Repayment.....	62
4.12 Collateral Securitization on Loan Performance	63
4.13 Kinds of Collateral Accepted for Loan Securitization in the SACCO	63
4.14 Savings / Deposits Used by the SACCO for Onward Lending	64
4.15 Credit Risk Management Techniques used by the SACCO.....	65
4.16 Factors Leading to Success and Liquidity Performance of the SACCO	66
4.16.1 Improved Loan Performance	66
4.16.2 Improved Credit Risk Management Awareness	67
4.17 Financial Performance of the SACCO.....	67
4.18 Hypothesis Testing	68
DISCUSSIONS	71
5.1 Overview of the Chapter	71
5.2 Role of Socio-Economic Characteristics in Influencing the Management and Performance of the SACCO	71
5.3 Effects of Interest Rate Fluctuation on Loan Repayment in the SACCO.....	73
5.4 Factors that Influence Adherence Loan Schedule in the SACCO.....	74
5.5 Effects of Loan Repayment Period on Loan Performance of the SACCO	74
5.6 Influence of Collateral Securitization on Loan Performance.....	76
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	82
6.1 Overview of the Chapter	82
6.2 Summary of Major Findings	82
6.3 Conclusion.....	82
6.4 Recommendations.....	84
6.4.1 Recommendations for Management of the SACCO.....	84
6.4.2 Recommendations for Further Research	85
REFERENCES.....	87
APPENDICES.....	94

LIST OF TABLES

	Page
Table 3. 1: Target Population of the Study	39
Table 3. 2: Distribution of Sample Size.....	41
Table 4. 1: Respondents Gender in Moi University SACCO	47
Table 4. 2: Position of Respondent in SACCO.....	49
Table 4. 3: Work Experience Bracket of Respondent in the SACCO	49
Table 4. 4: Level of Respondent’s Education by Frequency and Percentage in Moi University SACCO	50
Table 4. 5: Views of Respondent on High Interest Rates on Loan Performance in the SACCO	52
Table 4. 6: Responses on Poor Regulation on Loan Performance in the SACCO.....	52
Table 4. 7: Responses on Exchange Rate fluctuation on Loan Performance in SACCO..	53
Table 4. 8: Responses on Weak Credit Management on Loan Performance in the SACCO	54
Table 4. 9: Responses on Lack of Credit Reference Bureau on Loan Performance in the SACCO	54
Table 4. 10: Responses on Poor Lending Policies on Loan Performance in Moi University SACCO	55
Table 4. 11: Responses on Customer over Committed Income on Loan Performance in Moi University SACCO.....	56
Table 4. 12: Responses on Poor Loan Appraisal in Moi University SACCO	56
Table 4. 13: Responses on Undervalued Collateral Securitization on Loan Performance in the SACCO	57
Table 4. 14: Response on Increased Returns on Loan Performance	58
Table 4. 15: Responses on Undervalued Collateral Securitization on Loan Performance in the SACCO	58

Table 4. 16: Correlation Results between Interest Rate and Loan Performance of SACCO	59
Table 4. 17: Respondent Views on the Causes of Loan Default in SACCO	60
Table 4. 18: Overall Loan Default Percentage.....	61
Table 4. 19: Responses on Credit Follow Up Contributes to Poor Performance in the SACCO	61
Table 4. 20: Responses on Liquidity and Credit Risks on Loan Performance in the SACCO	62
Table 4. 21: Views of Respondent on Waiting Period and Repayment on Loan Performance in the SACCO.....	63
Table 4. 22: Responses on Collateral Securitization on Loan Performance.....	63
Table 4. 23: Kinds of Collateral Accepted for Loan Securitization in the SACCO.....	64
Table 4. 24: Savings / Deposits Used by the SACCO for Onward Lending	65
Table 4. 25: Responses on Credit Risk Management Techniques used by the SACCO on Loan Performance	66
Table 4. 26: Views of Respondent on Proper Credit Risk Management Improved Loan Performance in the SACCO.....	66
Table 4. 27: Responses on Improved Credit Risk Management Awareness on Loan Performance in SACCO.....	67
Table 4. 28: Chi-Square Test Results on Relationship between Interest Rates and Loan Performance of the SACCO.....	68
Table 4. 29: Chi-Square Results on Repayment Period and Performance of the SACCO	69
Table 4. 30: Chi-Square Test Results on Collateral Securitization and Performance of the SACCO	69
Table 4. 31: Summary of the SACCO's Loans Performance	70

LIST OF FIGURES

	Page
Figure 2. 1: Conceptual Framework	37
Figure 2. 2: Respondents Age in SACCO	48

LIST OF APPENDICES

	Page
Appendix I: Questionnaire for Participants	94
Appendix II: Data Tables	106
Appendix III: Results on Data Tables	107
Appendix IV: Research Authorization	108
Appendix V: Research Permit	109

ABBREVIATIONS AND ACRONYMS

- CAMPARI: - Character, Ability, Margin, Purpose, Amount, Repayment and Insurance.
- 5Cs: - Character, Capacity, Capital adequacy, Condition and Collateral pledged for debt security.
- CRMT: - Credit Risk Management Techniques.
- FOSA: - Front Office Services Activities.
- ICA: - International Co-operative Alliance.
- KUSCCO: - Kenya Union of Savings and Credit Cooperative Societies.
- MUSCO: - Moi University Savings and Credit Co-operative.
- SACCO: - Savings and Credit Co-operative Society.
- SASRA: - SACCO Societies Regulatory Authority.
- USAID: - United States Agency for International Development.

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OPERATIONAL DEFINITION OF TERMS

- Credit: -** This refers to financing directly or indirectly, the expenditure of other against future repayment. Such lending or financing is direct when say a SACCO extends a loan or an overdraft facility to a customer who then uses it. It is indirect when a trader or producer supplies goods on credit. Traditional savings and credit groups are one of the most common variants of informal financial intermediaries in rural areas.
- Management: -** Administration or management is the art of attempting to achieve stated objectives by directing human activities in the production of goods and services in the loan servicing. Management utilizes the land, factory, officers, machinery and other facilities at the disposal of the enterprises in the most effective, efficient and profitable manner.
- Credit Risk: -** This refers to the risk that a borrower will default on any type of debt by failing to make payments while obligated to do so.
- Risk: -** This is the potential that a chosen action or activity (including the choice of inaction) will lead to a loss (an undesirable outcome). The notion implies that a choice having an influence on the outcome exists (or existed).
- Defaulted Loans: -** The inability of borrower to meet contractual arrangement as agreed when due amount to defaulting.
- Non-performing Loans: -** These are loans which have suffered default or non-payment leading to breach of the repayment contract.
- Bad loans: -** This refers to a loan where repayments are not being made as originally agreed between the borrower and the lender, and which may never be repaid.
- Good loans: -** Good loans refer to a loan where repayments are made as originally agreed between the borrower and the lender, and which the loan is fully repaid within the agreed required period. An example of a good loan is a development loan acquired from a lending institution at the right time needed and repaid as per stipulated repayment period.

CHAPTER ONE

INTRODUCTION

1.1 Overview of the Chapter

The chapter presents a brief history of the savings and credit cooperative society (SACCO) movement highlights its importance to the society as well as on the problems of credit risk management techniques. This chapter also gives the background of the study, statement of the problem, objective of the study, research hypothesis, significance and justification, limitations, scope and assumption of the study.

1.2 Background to the Study

The evolution of credit risk management as a discipline has been driven by market forces on the one hand and developments in SACCO supervision on the other with each side operating with the other in complementary and mutually reinforcing ways (Cyree *et al.*, 2012). SACCOs and other lending institution and market participants have made many of the key innovations (Harald and Claudia, 2009) in credit risk measurement and credit risk management (Kenneth and Ramirez, 2008), but supervisors have often helped to adapt and disseminate best practices to a broader array of financial institutions (Federico, 2010).

Contemporary SACCO organizations are exposed to a diverse set of credit risk, market risks and non-market risk, and the management of risk has accordingly become a core function within SACCOs and other financial institutions. SACCOs have invested in credit risk management for the good economic reason that their shareholders and creditors demand it (Wilson, 1998). But SACCO supervisors, such as the SASRA also

have an obvious interest in promoting strong risk management at Savings and Credit organizations because a safe and sound banking system is critical to economic growth and to the stability of financial markets. Indeed, identifying, assessing, and promoting sound credit risk-management practices have become central elements of good supervisory practice (Violi, 2011).

Section 68 of the SACCO Societies Act, 2008 requires the Minister, in consultation with SACCO Society Regulatory Authority (SASRA) to make regulations for better regulation and supervision of SACCOs. The regulations provide guidelines; define checks and balances delineating boundaries of authority, address grey areas and ease bottlenecks that may have constrained SACCOs from achieving their ultimate objective, (SASRA, 2009).

The interaction between SACCOs, private and public sectors in the development of credit risk management techniques has been particularly extensive in the field of financial capital regulation, especially for the banking organizations that are the largest, most complex, and most internationally active. The current system of financial capital standards is the Basel I framework, which was established internationally in 1988. Basel I framework was an important advance that resulted in higher capital levels, a more equitable international market place and most relevant to themes that link financials' capital holdings and the credit risks they take. However, Basel I is becoming increasingly inadequate for large and complex organizations. The activities of these organizations demand not only go beyond Basel I but also continue to improve today's most advanced methods of credit risks management. Thus, in the proposed new framework, known as Basel II, supervisors are seeking to draw upon industry best practice while also

encouraging the industry to advance the risk-management frontier (Basel Committee Publication, 2000).

The performance of Co-operatives SACCOs and other financial institutions before 20th century was generally unsatisfactory. Poor management of the credit risk portfolio, lack of skilled and committed personnel, policies and mode of appraisal and analysis by financial institutions in lending process contribute to poor performance (Derban *et al.*, 2005). The financial system was overly regulated and poorly managed (Violi, 2011).

The record of recoveries of loans, mounting overdue and bad debts cause a lot of concern to SACCO management as well as the political leadership. This left doubts as to whether the lending officials themselves in general were well and adequately equipped analytically to detect in advance such weaknesses. The most appropriate and timely action is not to lend or extend credit to any borrower or business or project if it would most likely be unable to pay its way (Malimba and Ganesan, 2009).

According to the SACCO Star (KUSCCO, 2010), SACCO sub-sector has witnessed rapid growth in the last few years at the rate of about 25% per annum and now boast of savings mobilization of Ksh.180 billion and an asset base of Ksh.200 billion. The Savings mobilized represent 31% of the national savings. SACCOs have therefore played a key role in mobilization of financial resources and will be a major player in realization of national Vision 2030. The SACCO sub-sector occupies a strategic position in the socio-economic development of our country (Wilson, 1998). The Kenya Co-operative sector is rated the best with the highest resources mobilization in Africa and 7th in the world according to survey carried out by the International Co-operative Alliance in 2010

(KUSCCO, 2010). A number of SACCOs have huge non-performing loans some of which are not recoverable. Many SACCOs have not made provision on the risky loans and those loans continued to attract interest even long after being delinquent. Many of the loans are not recoverable as members have over-guaranteed one another leading to non-performing loans in case of default, seriously affecting the SACCOs' profitability, (Robin and Hugh, 2009). Performing assets although decreasing in absolute terms, their impacts affect the profitability and survival of the SACCOs. These would warrant research to identify causes and ways of managing credit risks portfolios in SACCOs (KUSCCO, 2006).

1.3 Statement of the Problem

The ideal situation of a lending business is assumed to be the most profitable business although is at the same time highly risk (Mwaisekwa, 2004). Loans are accompanied by the credit risk arising out of the borrowers' default in repaying the loan. In performing lending business SACCOs are always keen on the rules, regulations, principles and procedures that should be followed before the loan is granted. Most important on lending principles is the fact that the lender will part his money to any one possessing the marketable assets whose value exceeds that of the loan. The basic reason for this is that, market value of the pledged tangible or shares or financial asset fall that of the loan and in the case of the failure to repay the borrowed money the lending SACCO can still get back all its cash from the sale of the asset or offset it with the pledged shares. Alternatively the value of the project to be financed must exceed the amount of the loan.

Despite the development of roles of credit risks management programmes, availability of principles, rules and regulations; non-performing loans is still a major challenge in Co-operatives SACCOs. Common to all is the problem of default in loan repayment. But for Moi University SACCO the situation is promising yearly as it has been seen in its annual reports of 2009, 2010, 2011 and 2012 portfolio at risk as a percentage of total outstanding loans are 9%, 13%, 6% and 7% respectively as shown in appendix III. The trend has decreased from 9% in 2009 to 7% in 2012 and this is the portfolio at risk which shows existence of gap of bad loan performance.

Therefore the aim of conducting this study was to examine the techniques used by Moi University SACCO in reducing bad loan performance taking into consideration that proper credit risk management techniques is a tool for prosperous and development of any financial institution conducting lending business in the financial markets. Credit risks management of loans have been necessitated by the increase in loan delinquency. Hence the need to study the influence of credit risks management techniques on loan performance in SACCOs.

1.4 Objectives of the Study

1.4.1 The main Objective

The research aimed at examining the credit risks management techniques on loan performance in SACCOs and assessing whether the techniques are helpful in reducing bad loan performance in lending business.

1.4.2 Specific Objectives

The specific objectives of the study were:

1. To analyze the impact of interest rates fluctuations on loan repayment in Moi University SACCO.
2. To determine the effect of repayment period on loan performance of a SACCO.
3. To examine the influence of Collateral Securitization on loan performance in Moi University SACCO.

1.5 Research Hypotheses

H₀₁ There is no relationship between Interest rates and loan performance of Moi University SACCO.

H₀₂ There is no significant relationship between repayment period and loan performance in Moi University SACCO.

H₀₃ There is no relationship between the influence of Collateral Securitization and loan performance in Moi University.

1.6 Significance and Justification of the Study

Research findings are expected to add value to the existing body of knowledge. It is expected to be an input for policy, decision makers and practitioners. The study could assist the committed managers in their decision making, as it concerns credit policy and management of credit in form of proper assessment of loan applications, supervision of credit and evaluation of project proposals. It would help the management to assess the need to employ professional staff. The study would be of importance to universities, polytechnics and students undertaking studies on issues in various institutions.

1.7 Limitations of the Study

In carrying out this study the following limitations were encountered. Firstly, results of this study can only apply to SACCOs. Secondly, the results are only relevant to Moi University SACCO and may not hold true for other SACCOs.

The field of effective credit risk management techniques in SACCOs is not yet well developed. There was limitation in literature since very little research has been done in this field and particularly on SACCOs.

1.8 Scope of the Study

The study was limited to effective credit risk management techniques in co-operative Savings and Credit Societies. The study investigated the available sources of funds for co-operatives as well as the Credit risk management and financial problems in SACCOs. This study was conducted at Moi University Savings and Credit Cooperative Society (SACCO) at Moi University, Eldoret and specifically assessed the credit risk management in the SACCO from 2008 to 2012. The fieldwork for the study was conducted between August 2012 and April 2013.

1.9 Assumptions of the Study

The assumptions of the study are that the questionnaires were filled adequately and truthfully without bias. Hence the information provided the basis of what has been used in this study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview of the Chapter

This chapter covers the general literature on the subject. It is divided into two parts, which are theoretical part and empirical part.

2.2 Theoretical Review

The concept of identifying and assessing effectiveness of credit risk management techniques used by Co-operative Savings and Credit society (SACCO) has a great impact on the growth of the industry's liquidity position. The effects of credit risk management techniques used in the study were the default risk models. An exposition on these models is given in subsequent sections (Wilson, 1997c).

2.2.1 Default Risk Models

Economists, bankers, SACCOs and analyst have developed many different models to assess the default risk on loans. These models are not mutually exclusive, in that financial institution managers may use more than one model to reach a credit pricing / loan quantity rationing decision (Vorgelegt *et al*, 2002). Consequently, different models have been developed to help economists and others to assess the default risk in SACCOs.

2.2.1.1 Qualitative Model

In the absence of publicly available information on the quality of borrowers, a financial institution manager has to assemble information from private sources such as credit and deposit files and or/ purchase such information from external sources such as credit rating agencies (Leung and Lai, 2001). Sinkey (1989) reports that the determination of

information which helps the manager to make an informed judgment on the probability of default of borrower and also to price the loan or debt correctly. Qualitative models include the 5cs and CAMPARI, in which 5cs evaluate and analyze the character, capacity, capital adequacy, condition and collateral pledged for debt security and CAMPARI addresses character, ability, margin, purpose, amount, repayment and insurance (security).

2.2.1.2 Quantitative Models

These are the methods SACCOs and other financial institution use to evaluate, analyze and review loan applications. These are also known as credit scoring methods and include Multivariate Discriminant Analysis (MDA) and Univariate Discriminant Analysis (UDA), (Chijoriga, 2011).

Borrower specific factors to be considered by lending institutions before a loan approved are reputation. The borrower's reputation involves the borrowing lending history of a credit applicant. If the borrower has established a reputation for prompt and timely repayment, this enhances the applicant attractiveness to the financial institution. A borrower's leverage or capital structure and the ratio of the debt to equity affect the possibility of its default. This is because, large amount of debt, such as loans increases the borrower's interest charges and poses a significant claim on its cash flows. A highly volatile earnings stream, increases the probability that the borrower cannot meet the fixed interest and principal charges for any given capital structure. Consequently, newer firms in high technology industries with high earnings variance overtime are less attractive than those with long and more stable histories. A key factor in any lending and loan pricing

decision is the degree of collateral or asset backing the security of the loan (Hellwig, 2009). Many loans are backed by specific asset should a borrower default on repayment obligations.

2.2.2 Market Specific Factors

The position of the economy in the business cycle phase is enormously important to any financial institution in assessing the probability of a borrower to default. High interest rate indicates restrictive monetary policy actions by the central bank (government). SACCOs and other financial institutions not only find funds to finance their lending decisions scarcer and more expensive but also recognize that high interest rates are correlated with high credit risk. High interest rate levels may encourage a borrower to take risks or encourage only the most risky customer to borrow (Amonoo, *et al* 2003).

2.2.3 Credit Scoring Models

Credit scoring models use data on observed borrower characteristics to calculate the probability of default or to sort borrowers into different default risk classes. By selecting and combining different economic and financial borrower characteristics, a financial manager may be able to: numerically establish which factors are important in explaining default risk; evaluate the relative degree or importance of these factors; improve the pricing of the default risk; better screen out bad applicants and be in a better position to calculate any reserves needed to meet expected future loan losses (Wilson, 1998).

The most applicable model to the study in question is the default risk model, comprising of both qualitative and quantitative model and can be mostly relevant in SACCOs.

2.2.4 Evaluation of the legislation on Co-operative Savings and Credit Society (SACCOs)

The first legislation to look at the cooperatives in Kenya was the Cooperatives Societies Ordinance Act of 1931 which was amended in 1932 and 1945. In 1946 the Colonial Government started supporting the idea of cooperatives by natives and established the Department of Cooperatives and the office of the Registrar of Cooperatives. The first Cooperative Societies Act 490 was eventually repealed and replaced by the cooperative societies Act, No 12 of 1997 (Wanyama, 2009).

The Cooperative Societies Act of 2004 is the current legislation that guides the formation and management of cooperatives in Kenya (Republic of Kenya, 2004b). The reforms contained in this revised Act sought to reduce the strict state supervision of cooperatives, in order to support the liberation of cooperative enterprises. The 1997 Act empowered members to be responsible for the running of their own cooperatives, through elected management committees. Despite this, cooperatives had not been prepared for this freedom. For the first time ever, the cooperatives were left without a regulatory mechanism to play the role that the government had previously played. Consequently, the immediate impact of liberation on cooperatives was principally negative. To the detriment of many primary cooperatives, the newly acquired freedom was dangerously abused by elected leaders. This saw many cooperatives report cases of corruption and management, such as gross mismanagement by officials; theft of cooperative resources; split of viable cooperatives into smaller ineffectual units; failure of employers to surrender members' deposits to cooperative SACCOs; failure to hold elections; nepotism in hiring and dismissal of staff; refusal of management committee members to vacate

offices after members voted for their dismissal; conflict of interest among cooperative officials; endless litigations; unauthorized cooperative investments; and illegal payments to the management committees (Manyara, 2003). As a result, the cooperative movement was undermined and most SACCOS faced eminent closure or collapse.

In response to these circumstances, the 1997 Act was amended in 2004. The main content of the cooperative Societies Act of 2004 was to re-enforce state regulation of the cooperative movement through the Office of Commissioner for Cooperative Development (Republic of Kenya, 2004a). The legislation stipulates that the roles to be undertaken by the government include: creating the policy and legal framework for development of cooperatives; improving the growth and development of cooperatives by providing the requisite services for their organization, registration, operation, advancement and dissolution; and developing partnerships with cooperatives through consultative processes that are focused on policy, legislation and regulation (Bald, 2007).

It is noted that the Act widens the Commissioners' powers and scope of regulation over the cooperative movement to include promotion, inspection, enquiries, auditing, surcharge, debt collection, liquidation and provision of technical extension services, (Richardson, 2000). Nevertheless registration of cooperatives continues to be the main role of the Commissioner for Cooperative Development. The requirements and procedure for registering cooperatives have been spelt out in the revised Cooperative Societies Rules of 2004, which also outlines the operational procedures of all primary cooperatives in Kenya (Wanyama, 2009).

In addition to this legislation, there is the SACCO Societies Act of 2008 that provides for the licensing, regulation, supervision and promotion of savings and credit cooperatives by the SACCO Societies Regulatory Authority (SASRA) (Republic of Kenya, 2008). This Act provides for the establishment of the SASRA whose functions would include licensing SACCOs to carry out deposit-taking business as well as regulating and supervising SACCOs (Brom and Karla, 2009). With regard to licensing, SACCOs would first of all have to be registered under the cooperative societies Act, 1997. Thereafter, they would have to obtain a license from the Authority to carry out deposit-taking business, popularly known as Front Office Services Activity (FOSA) after meeting a raft of requirements, which include meeting the minimum capital requirement as prescribed by the Authority. Upon being licensed, the SACCO would be required to engage only in the business prescribed by the authority. While carrying out that business, the SACCO shall be governed in accordance with the provisions of this Act and would be supervised, inspected, advised and generally regulated by the Authority (Jeffrey, 2000). Nevertheless, some provisions in the Act, such as the minimum capital requirement, are so stringent that some SACCOs may not be able to operate the FOSA activity posing saving and credit risk management.

2.2.4.1 Objectives of SACCOs

The main aims of SACCOs are: to make available short term, medium term, and long term finance to its members for economic development (Wilson, 1998); to promote the economic interest of its members in accordance with the cooperative principles; to promote thrift among customers and afford them the opportunity for accumulating savings; to offer customers complimentary savings, credit and other financial services; to

lend money to members for any purpose directly concerned with their economic development on such terms and with such surety as shall be provided by the society's policies and procedures set by management committee and approved by the general members and guided by the society's financial capacity; to ensure safety and soundness of customers funds through risk management and other appropriate insurance schemes; to provide technical assistance and advice in order to promote economic development; and, to undertake such other activities as may be necessary or advantageous for the furthering of foregoing objectives (KUSCCO, 2010). The study hypothesized that MUSCO has incorporated these objectives in its mandate and operations.

2.2.4.2 Saving and Credit Co-operative Mission Statement

The general mission statement for all SACCOs is to promote thrift among members by giving an opportunity for accumulating savings and creating a source of funds for provident and productive purposes at reasonable rates for mutual benefits in economic development of Kenya by being leaders in development financing whilst providing specialized investment-savings and credit services on a cooperative basis (KUSCCO, 2006). In doing so, the savings and credit would continuously strive to achieve service excellence through a highly competent workforce and modern technology with the underlying objective of growing shareholder wealth.

2.1.4.3 Core Activities of SACCOs

Saving and Credit Cooperative principal activities include long term lending, short term lending, trade financing, deposit taking, special credit facilities to members, fund transfers, advisory services and fund administration (KUSCCO, 2010).

2.2.4.4 Lending policies

SACCOs provides credit facilities and other Savings and Credit services to its members in any of the following ways: By making or participating in direct loans with its unimpaired paid up capital and with its reserves and undistributed surplus or with unimpaired special funds; by making or participating in direct loans with funds raised by the SACCOs through borrowing or otherwise acquired by the Savings and Credit Co-operative for inclusion in its ordinary capital resources; by investment of the funds referred in the equity of agencies, entities or welfares, and by guaranteeing in whole or in part, loans made by others, for economic development (KUSCCO, 2006).

2.2.5 Overview of Risks

Risks are uncertain events that influence the achievement of the saving and credit strategic, operational and financial objectives. The dimension of the risk is circumstantial in nature. This means that the dimension of risk depends on the nature of saving and credit activities and the complexity of the saving and credit activities (Babble and Santamero, 1997).

There are various ways in which a saving and credit society can control its exposure to risk. First, some risks can be simply offset by taking an insurance cover whose purpose is to provide advice and underwrite risks for the cooperative movement by offering seamless hedging solutions to SACCOs and their members, and in so doing, protect SACCO members against adverse financial losses in the event of death, disability or a SACCO's insolvency or collapse. Second, for those risks where direct hedging transactions are not feasible the other way for the saving and credit to control its exposure

is by altering its investment policies and ensures that only those risks which cannot be separated from saving and credit business are the ones absorbed by it (Babble and Santamero, 1997).

Co-operative SACCOs are among financial institutions that benefit from differences between cost of their liability and the return on their assets. In essence, roles of commercial banks include but not limited to provision of market knowledge, transaction efficiency and funds to market participants (Howells and Bain, 1998). In performing these roles they act as principles in the transactions. As such they use their own balance sheet to facilitate the transaction and absorb the risks associated with it. Some activities performed by financial institutions do not however, have direct balance sheet implications. Such activities include agency and advisory activities like trust and investment (Froot, 1995). Nonetheless the overwhelming majority of risks facing the Co-operative SACCO firms are on the balance sheet business. These are mitigating credit risk by requiring collateral for all loans and by monitoring borrowers' capital adequacy condition to repay a loan.

2.2.6 Types of Risks Absorbed by SACCOs

Risks associated with the provision of savings and credit differs by the service rendered. Risks in savings and credit business are likely to fall within the following categories namely systematic or market risks, unsystematic risks, credit risk, interest rates risk, legal risk, liquidity risk, counterparty risk, operational risk and capital adequacy risk (Oldfield and Santomero, 1997).

Systematic risk is the risk asset value change associated with systematic factors like variation in general level of interest rate and relatively value currencies (Amonoo, *et al* 2003). An example is where an investor or a customer invests all his money in one industry whose returns are typically uncorrelated with broad market outcomes has limited his exposure to systematic risk but, due to lack of diversification, is highly vulnerable to risk (Danielsson, 2002).

Unsystematic risk is specific hazard that is inherent in each investment and also called nonsystematic risk. Examples of unsystematic risk include a new competitor, a regulatory change, a product recall and the risk of SACCO employees will go on strike, and SACCO business suffer as a result.

Counterparty risk comes from non-performance of a trading partner. Non-performance may rise from counterparty refusal to perform due to an adverse price movement caused by systematic factors, or from other political or legal constrain that was not anticipated by the principals.

Credit risk arises from non-performance by a borrower. It may arise from inability to perform in the pre-committed contracted manner.

Liquidity risk is the potential for funding crisis. Such situation can be associated with unexpected event such as large charge off, loss of confidence or a crisis of national proportion such as a currency crisis.

Operational risk is associated with the problem of accurately processing, settling and taking or making delivery on trades in exchange for cash. It can also arise from record keeping, processing systems failures and compliance with various regulations.

Interest rate risk is the risk that arises to shareholders from fluctuating interest rates or the risk that value of investment will change due to a change in the absolute level of interest rates.

Legal risk are endemic in financial contracting and are separate from legal ramifications of credit, counterparty and operational risk. New statutes, tax legislation, court opinions and regulation can put formally well-established traction into contention even when all parties have previously performed adequately and are fully able to perform in the future.

Capital adequacy risk is the ratio of shareholder's capital value to its risk. Regulatory authority track a shareholder's capital adequacy risk to ensure that it can absorb a reasonable amount of loss and complies with statutory requirements. Capital adequacy is a key indicator of the financial stability of a financial institution enabling a SACCO to withstand losses from unforeseen problems.

These risks are not borne by SACCOs itself. The SACCOs can either eliminate or mitigate the financial risks associated with its transactions by proper business practice. It may also shift the same to other parties' through combinations of pricing or product design (Howells and Bain, 1998).

For any SACCO, to operate in a manner consistent with the objective of maximizing shareholders wealth, it should neither engage in business in a manner that unnecessarily

imposes risks upon it; nor absorbs risk that can otherwise be transferred to the other participants. The SACCO should engage in managing risks that are uniquely a part of that saving and credit array of services. Oldfield and Santamero (1997) argued that risk facing all financial institutions can be segmented into three separable perspectives. These are: risk that can be eliminated or avoided by simple business practice which enables to reduce the chances of idiosyncratic losses from standardized saving and credit activity by eliminating risks that are superfluous to the institutions business purpose. Risk that can be transferred to other participants, in this case markets do prevail for many of the risks borne by saving and credit firms. Interest rate products like swaps or other derivatives can transfer interest rate risk (Amonoo, *et al* 2003). Borrowing terms can be altered to effect a change in their duration. Risks that must be actively managed at the firm level in savings and credit financial services are two classes or activities where the risks need to be absorbed at the saving and credit level. This necessitates the use of firm's resources to manage savings and credit risks level. The first of this includes financial assets or activities where nature of the embedded risk may be complex and difficult to communicate to the third parties.

2.2.7 Credit Risk

Credit risk arises from the potential that an obligator is either unwilling to perform on an obligation or its ability to perform such obligation is impaired resulting in economic loss to the SACCO (Wozabal and Hochreiter, 2012). In SACCOs, portfolio losses stem from outright default due to inability or unwillingness of a customer or counterparty to meet commitment in relation to lending, trading, settlement and other financial transactions.

Alternatively losses can result from reduction in portfolio value due to actual or perceived deterioration on credit quality (Oldfield and Santomero, 1997).

Credit risk emanates from a SACCO dealing with individuals, banks, corporate, financial institution or sovereign. For most SACCOs, loans are the largest most obvious source of credit risk; however credit risk can stem from activities both in balance sheet and off balance sheet and credit concentration. In addition to direct accounting loss, credit risk is also viewed in the context of economic exposures (Wilson, 1997b). This encompasses opportunity cost, transactions cost and expenses associated with a non-performing asset over and above the accounting loss. Credit risk can further be subdivided on the basis of reasons of default. For instance the default could be due to a country in which there is exposure or problems in settlement of a transaction. Credit risk is not necessarily occurs in isolation, but as a results of other related risks. The same source that endangers credit risk for the institutions may also expose it other types of risk such as liquidity risk (Wilson, 1998).

2.2.7.1 Credit Risk Management

Credit Risk management is a discipline at the core of every financial institution and encompasses all the activities that affect its profile. The credit risk management process involves identification, measurements, monitoring and controlling risks to ensure that, the individuals who take or manage risk clearly understand it (Bessis 2002; Howells and Bain 1998)

2.2.7.2 Importance of Credit Risk Management in Co-operative SACCOs

Since 1991 there have been numerous changes in the financial system in Kenya. Lack of confidence in lenders to the other financial institution and the viability of borrowers to repay their obligations have increased considerably (Wozabal and Hochreiter, 2012). Consequently, there has been a severe financial crisis and it is against this backdrop that the management of SACCOs becomes complex day-by-day.

Proper management of credit risks is needed to minimize these negative consequences. As it has been defined, credit risk is the probability that the actual return on investment will differ from its expected return (Wilson, 1997a). For the smooth operation and sustainable development of the economy of a country, the probability of actual return and expected return should be reduced to a reasonable rate. SACCOs bring direct benefits to the economy of a country and any breakdown in these systems resulting from poor management of credit risks is likely to produce adverse results to the economic development systems of a country. SACCOs enhance the ability of savers to transfer wealth from their old age and across generations (Saunders 1996).

2.2.8 Techniques used in Credit Risk Management

The following are the techniques used to managed credit risk in saving and credit businesses:

Credit Files: - Many Savings, Credit and other financial institutions in market economies have routine internal procedures for evaluating their clients. These are built around credit files that contain complete information on the relationship between a SACCOs and client. Credit files contain a summary of business relationship between SACCOs and clients

information on senior officers and directors, financial data including audited financial statements, spreadsheets constructed by savings and credit society that contains ratios and other analytical indicators calculated from financial data. Information about this relationship forms the basis for financial institutions strategy in managing its exposure and obtaining more business from the client. Appropriate analysis that provides a window on risk and consistency in evaluation are important for good decisions and for maintaining good relationship with borrower (Vorgelegt *et al*, 2002).

Credit Information Exchange: - Another means that savings and credit societies use to control risks is credit reporting. SACCOs may exchange information with other SACCOs on the behaviors of their client. Under this method SACCOs are required to develop a code of conduct, which would guarantee each other that credit reports of the client may not be requested for competitive purpose that is for use by one SACCO soliciting a prospective client who currently deals with another SACCO. Another method is by using private credit bureau. These agencies collect data from various sources and receive complaints about commercial behaviors of individuals or groups. Credit reports may be available only to members of the credit bureaus.

Collateral Securitization: - Asset securitizations give SACCOs the opportunity to increase the quality of their lending portfolios. In this respect asset securitization allows SACCO members to share the risk of lending with investors, and therefore encourage the SACCOs to perform their roles as intermediaries (Robin and Hugh, 2009). If the borrower defaults the lender has a claim against the collateral being offered to secure the loan and if the loan is not repaid the property is sold. The lender is compensated for the money lost through the defaulted loan and collects the money.

Lenders often value the property conservatively and lend only a percentage of its appraised value to further minimize the risk incurred. This is known as the loan to value ratio. To collect reliable information from a prospective borrower, SACCOs often require the loan seeker to fill forms that ask for details about the borrower's financial status, monthly income, previous debts and marital status among others. A similar process is carried when a company applies for a business loan. Information is collected regarding the company's profit losses, debts and financial status (Kose *et al*, 2003).

Monitoring: - To prevent individuals or firms from engaging in activities that would make it less likely to repay the loans, SACCOs often include restrictive covenants in loan contracts that restrict borrowers from engaging in risky activities. Using this, SACCOs can monitor borrowers, activities and determine whether they abide by the covenants to ensure that no risk is taken at the lender's expenses.

Knowledge, Competent, Committed and Innovative Personnel: - The personnel provision and administration should be well equipped with all necessary skills on customer care, credit management and administration. Institutions should be flexible to adapt to external changes and impart more knowledge to the employees within the organization. The major challenge is to train and develop manpower, equipping them well enough to take on lending problems, as well as contributing to the implementation of the national long term economic development and structural transformation.

Capital Absorption and Instruments Development: - Compared with the past decade, SACCOs currently have significantly more capital with which to absorb shocks and they employ improved systems for managing credit risk. In conjunction with this improvement, both as a cause and effect, SACCOs have more tools at their disposal with

which to transfer credit risk and in so doing to dispense credit risk more broadly through the financial system. Some of these tools are loan syndications, loan sales and pooled asset securitization that are relatively straightforward and transparent.

More recently instruments that are more complex and less transparent such as credit default swaps, collateralized debt obligations and credit linked notes have been developed and their use has grown very rapidly in recent years (Wozabal and Hochreiter, 2012). The result of this is an improved credit risk management together with more and better risk management tools that significantly reduce loan concentrations in the borrowers and the associated stress on SACCOs and other financial institutions (Alan 2002).

2.2.9 Measurement of Credit Risk

To calibrate the default risk exposure of its credit and investment decisions as well as assess its credit exposure in off balance sheet contractual arrangements such as loan commitments, a financial manager needs to measure the probability of the borrowers default. The ability of this depends on the amount of the information the SACCO has about the borrower (Edward *et al.*, 2005).

At the internal level, much of the information needs to be collected internally or purchased from external credit agencies. At the external level, these information sources are bolstered by publicly available information such as certified accounting statements. The availability of more information, and the lower average cost of collecting such as information allows SACCOs to use more sophisticated and usually more quantitative methods in assessing default possibilities for larger borrowers compared to small borrowers. However, advance in technology and information collection are making

quantitative assessment of even smaller borrowers increasingly feasible and less costly (Saunders, 1996).

Credit risk management begins with assessment of the risk of loss resulting from the default by a borrower or counterparty. All credit exposures are assessed: whether on or off balance sheet. These exposures include loans and receivables under derivative (lending related commitments). Using statistical techniques, estimates are made of both expected losses (on average, over a cycle) and unexpected losses for each segment of the portfolio risks (Wilson, 1997d). Unexpected losses represent the potential volatility of actual losses relative to the expected level of loss. These estimates drive the credit cost and capital allocation to each business unit. Consequently, the credit risk profile of each business unit is an important factor in assessing its performance.

2.2.10 How to Manage Credit Risk

There is no easy way to deal with risks. Large risks can be aggregated, different prices can be charged for different risks and for different people or firms willing to accept risks and its impact can be separated in time and spread over different time periods (Von-Pischke, 1991). However, how difficult management of risk is, most important is the different degrees or types of risks that can be identified and separated makes them more transparent. Better identification and definition of risks also makes it easier to attempt to manage them. Risk management is probably the major contribution that SACCOs can make to development.

2.2.11 Regulation Guidelines by SACCO Societies Regulatory Authority

The SACCO Societies Regulatory Authority (SASRA) is a Semi-Autonomous Government Agency under the Ministry of Cooperative, Development and Marketing (Republic of Kenya, 2008). It is a creation of the SACCO Societies Act 2008 and was inaugurated in 2009 charged with the prime responsibility to license and supervise deposit taking SACCO in Kenya. The establishment of SASRA falls within the Government of Kenya's reform process in the co-operative sector which has the dual objectives of protecting the interests of SACCO members and ensuring that there is confidence in the public towards the SACCO Sector and thus spurring Kenya's economic growth through the mobilization of domestic savings (SASRA, 2009).

SASRA Regulatory guideline Authority committee on SACCO supervision in 2010 issued a directive that requires SACCOs to identify and manage credit risk inherent in all products and activities. SACCOs were asked to ensure that the risks of new products and activities are subjected to adequate procedures and controls before being introduced or undertaken and approved in advance by the board of directors or its appropriate committee. SACCOs must as well operate under sound, well-defined credit granting criteria. These criteria should include a thorough understanding of the borrower, as well as the purpose and structure of the credit and its source of repayment (Mwaisekwa, 2004). SACCOs should also establish overall credit limits at the level of individual borrowers and counterparties and groups of connected counter parties that aggregate in a comparable and meaningful manner different types of exposures including on and off balance sheet exposures.

SACCOs should have a clearly established process in place for approving new credits as well as extension of existing credits. All extensions of credit must be made on an arms-length basis. In particular credits to related organizations and individuals must be made, monitored with particular care and other appropriate steps taken to control or mitigate the risks of connected lending as well as maintaining an appropriate credit administration, measurement and monitoring process. SACCOs should have in place a system for the ongoing administration of their various credit risks bearing portfolios (Cole *et al.*, (2005).

SACCOs should emphasize on systems for monitoring the condition of individuals' credit, including determination the adequacy of provisions and reserves, and they should develop and utilize internal risk rating systems in managing credit risk. The rating system should be consistent with the nature, size and complexity of SACCO activities (Brent, *et al.*, 2005).

SACCOs should also establish a system of independent, ongoing credit review and the results of such review should be communicated directly to the Board of directors and senior management, and they must ensure that credit granting function is being properly managed and that credit exposures are within levels consistent with prudential standards (KUSCCO, 2010).

2.3 Criticism of Credit Default Risk Model

A number of studies have been conducted in the field of lending business. Chijoriga (2011) studied the application of credit scoring and financial distress prediction models to financial institution lending. Chijoriga (2011) offered the same arguments like Mamiro (2002) on financial sector reforms of 1980s to 1990s that as deregulation was introduced

in the mid-1980s, financial institutions started lending to all customers without much scrutiny. Financial institutions found themselves lending to risky borrowers hoping for fat profits. But because interest was left to increase, it created bubbles and borrowers began to default. They concluded that reckless lending, corruption and fraud cause financial institution failures.

2.4 Review of Empirical Studies

2.4.1 Interest Rates Fluctuation on Loan Repayment

Robert, *et al* (1983) assert that when lenders or investors are uncertain about future interest rates, they may wish to hedge their belts. This introduces new dimensions into the interest rates calculations and gives rise to the term structure of the interest rates while Borio, *et al* (1995) note that inflationary policies and related monetary policies often bring about an increase or the fall in the general level of the interest rates. The level of interest rates has a direct effect on a consumer's ability to repay a loan, hence affect loan performance.

Mohane, *et al* (2002), assert that when interest rates are low, people are willing to borrow because they find it relatively easy to repay their debts. When interest rates are high, people are reluctant to borrow because repayments on loans cost more. Some consumers may even find it difficult to meet their existing loan repayments, especially if interest rates increase faster than the rise in a consumer's income. If interest rates rise sharply and stay high for a long period, some consumers default on their loans.

A study by Chijoriga (2011) on credit risk modeling and valuation found out that firms share a common dependence on the economic environment, which results in cyclical

correlation between defaulters. This also observed jumps in spread that suggested that a large variation in the credit risk of one issuer, which causes a spread jump, could propagate to other issuers as well. This study also indicated that the future of borrowing customers businesses can be predicted and possible defaulters identified during the appraisal stage (onset) and pried accordingly, or decision to reject the request made.

2.4.2 Loan Repayment Period on Loan Performance of a SACCO

According to Mwisekwa (2004), several studies have been conducted regarding credit risk, and have insisted that credit is a two-sided problem. One side of the problem is extending too much credit on excessively generous terms to unreliable and unproductive borrowers. The alternative danger of too little credit provided on too conservative terms is only infrequently recognized. Too much and too risk a credit can lead to serious losses; too little and too safe a credit can lead to a level of production, employment and income significantly below that would otherwise be achieved. Economic consequences can be serious when credit is too safe, as well as when is to risk. However when his study analyzed, it is realized that, the problem of credit risk is that of balancing risks and benefits of balancing the cost involved in reducing credit risk against the benefit derived from the increase.

Another point that the author raises is that, credit difficulties have two different impacts. The first is the private or internal cost, the cost that the lender must absorb when the borrower does not fulfill the credit contract, plus the cost to the borrower. The second is the social or external cost: the loss to the economy of the business activity formerly carried on by the defaulting firm, including the secondary effects of the reduced activity

on other lines of business. A series of default could impair the willingness of lenders to extend credit and borrowers to invest.

The importance of the distribution between private and social cost is that, while the lender can frequently protect himself from the private cost by means of the interest rates charged, the reserves he maintains, and sometimes through government guarantees or insurance, there is no protection (outside of the general economic stabilization policies) against social costs, which affects the economy at large.

Regulatory impact on credit portfolio management concluded that efficiency credit portfolio management is a key success factor of a financial management. Adverse market environment and intensifying competition, financial institutions are exposed to increasing risks and decreasing return margin of their credit portfolio, while financial institutions shareholders are demanding higher risk premiums of invested capital, management ability to identified risk return optimal portfolio is a fundamental element of credit portfolio management. They have some relationship to the SACCOs current savings and credit environment where competition in savings and credit is stiff and margin significantly falling at the same time shareholders demanding higher returns (Ursula *et al* 2003).

Basel Committee Publication (2000) in their publication on sound practices for loan accounting and disclosure concluded that accounting treatments generally and loan accounting specifically, can significantly affect the accuracy of financial and supervisory reporting and related capital calculations. Moreover, sound accounting and disclosure practices are essential to ensure enhanced transparency needed to facilitate effective

supervision and market discipline of financial institutions (Oyewole, 2010). The primary concerns of supervisors regarding loan accounting and disclosure are the adequacy of total allowance, timely recognition of identified losses through either specific allowance or charge offs and timely and accurate credit risk disclosure. The objective of the publication was to promote effective savings and credit supervision, safe and sound banking systems.

Rashid, (2005) asserts that savings and credit institutions rarely lose money solely because the decision to lend was wrong, even where there are greater risks than the financial institution recognized; they only cause a loss after giving warning signs. More savings and credit institutions lose money because they do not monitor their borrowers properly, and fail to recognize the warnings early enough, than for almost any other reason of default. Early recognition of problem signs always gives some chance of helping in several ways. It gives the chance to the savings and credit institutions to study the problem, decide on its main causes, prospects of dealing with them and how likely they are to prove fatal. Early identification of credit problems allows considered action alone jointly with management of the savings and credit organizations or with other lending institutions, to rescuer the situation before the borrowers, financial problem reaches unsalvageable state.

Early recognition of organization's weakness does not happen in vacuum. Savings and credits organizations must have systems for monitoring all credits, even those it believes to be healthy. Naturally a borrower in difficulty time needs close watching. But the main need is to review borrowers and to highlight early names whose quality is deteriorating.

Constant monitoring increases the chances that financial organization would respond to changes and provide information more willingly. A financial institution that always closely follows an organization's standing can often point out dangers or opportunities to the institution, as well as giving quick agreement to request for credit. Monitoring is basically constructive, and not a panic reaction, and carries more weight when it expresses concern.

Rashid (2005) asserts that the essential element of the desired commercial infrastructure is a legal and judicial framework that provides for an efficient and prompt debt recovery process. Unsatisfactory debt recovery is one of the main reasons for financial distress to many lenders across the world (Malimba and Ganesan, 2009). In most developing countries, a significant proportion of loans made by savings and credits organizations and other financial institutions are in default. Consequently many such lending institutions may be technically insolvent. The effect of non-performing loans goes beyond its impact on lending institutions and the repayment period. Severe financial distress of lenders has a widespread negative impact on economic growth and development. It is particularly costly to developing countries.

A study by Basel Committee Publication (2000) on best practices for credit disclosure, found out that transparency in credit risk saving and credit risk is particularly important since weak credit risk management practices and poor credit quality continue to be a dominant cause of financial lending institutions failures and financing crisis worldwide. They also found that well informed shareholders, investors, depositors, creditors and other financial institutions counter parties can provide a savings and credit with strong

incentives to maintain sound risk management systems and internal controls and to conduct its business in a manner that both prudent and consistent with stated business objectives. They further found that transparency strengthens confidence in the savings and credit system by reducing the uncertainty in the assessment of financial institutions.

Ndazi (2001) suggests that supplying liquidity to constrained firms is very risky as it reduces the probability of payments and increases moral hazards problems due to repayment period on loan performance. This implies that the supplying firm would also experience liquidity problems and high costs resulting from late payments that would further affect profitability of the firm. Good loans are loans that are repaid according to the terms and condition agreed when they were issued. In most cases loans are known to be a good source of financial institution profitability if not defaulted (Shango, 2000).

According to Pearce and Robinson (2007), operational risk controls provide post action risk evaluation and risk controls over short periods from one month to one year. To be effective, operational credit risk controls must take four steps common to all post action credit risk controls; set standards of credits risks performance, measure actual credit risk performance, identify deviations from standards and initiate credit risks corrective actions (Samules, 2011). According to Mwaura (2005), lack of credit risk analysis, credit follow-ups as well as lending without proper procedures are the key factors that contribute to poor performance in loan lending by SACCOs in Kenya.

According to Johnson and Scholes (2007), many managers find a process for developing a useful set of performance indicators for their organizations difficult. One reason for this is that many indicators give a useful but only partial view of the overall picture. Also

some indicators are qualitative in nature, whilst the hard quantitative end of assessing risk performance has been dominated by financial risk analysis. In an attempt to cope with this very heterogeneous situation, balanced score cards were used as a way of identifying a useful, but varied set of key measures (Samules, 2011). Balanced score cards combine both qualitative and quantitative measures, acknowledge expectations of different stakeholders and relate an assessment of loans performance to choice of strategy.

Sinkey (1989) argues that the determination of creditworthiness of financial institutions is dependent on five conditions known as, the 'five Cs' of credit management. These are character (good citizen), capacity (a cash flow), capital (measured by the borrower's net worth), and position, collateral (i.e. quality of the asset pledged) and conditions about the economic measures of a borrower's vulnerability to environmental changes such as economic downturns (credit crunch). Credit granting by Microfinance firms depends mostly on information systems and analytical techniques that enable management to measure the credit risk inherent in all balance sheet activities. Proper determination of creditworthiness of a borrower should be adhered to in SACCOs as a way of reducing credit risks.

2.4.3 Collateral Securitization on loan performance

Voordeckers and Steijvers (2006) emphasizes on collateral or guarantors as one of the most determinants of demand for credit. They emphasizes are on comparisons between business collateral and personal commitments. Collateral is pledged in order to reduce the risks as a result of asymmetric information, adverse selection and moral hazard. However, critics on collateral requirements in connection with credit evaluation argue

that banks / microfinance institutions are better placed to evaluate projects of borrowers. The need of collateral weakens the incentives of banks to do so, argue that whether to use business collateral or personal commitment will depend on the classification of credit. These includes whether unsecured, secured with business collateral or secured with personal commitment in order to reduce credit risk.

According to Steel and Andah (2003), microfinance refers to small financial transactions to low income households involved in microenterprise, using non-standard methodologies such as character-based lending, group guarantees and short-term repeat loans. In practice, the term is often used more narrowly to refer to loans and other services from providers that identify themselves as Microfinance firms. Microfinance is meant to reduce poverty since it is directed towards the poor people in the economy and the effectiveness of the functions is dependent on having well defined credit granting criteria (Microfinance Gateway, 2009). The basis for an effective credit risk management process is the identification and analysis of existing potential risks inherent in all products and activities.

SASRA Regulatory guideline Authority Committee on SACCO supervision in their study conducted in 2009 on credit risk Modeling: found that credit risk modeling may result in a better internal risk management and may have the potential to be used in the supervisory oversight of Co-operative society organizations (SASRA, 2009).

The SACCO Societies Regulatory Authority (SASRA) is entrusted with the responsibilities to confidently test and see to it that the model is used actively in the management of credit risk and at the same time confirm that the model is conceptually

sound, empirically validate and produces capital adequacy requirements that are comparable across SACCO institutions (Vorgelegt *et al*, 2002).

2.5 Conceptual Framework of the Study

Conceptual frameworks are the Credit risk problems, especially weaknesses in credit risk management techniques (CRMT) are the reasons behind SACCOs' difficulties. Considerations that form the basis for sound CRMT system include: policy and strategies (guideline) that clearly outline the scope and allocation of SACCO credit facilities and the manner in which a credit portfolio is managed.

The factors which may lead to loan delinquents in the SACCO loan business environment should be identified and proper credit risk monitoring and controls be put in place so as to reduce poor loan performance. Loan collateral securitization would cover the unforeseen circumstances and compensate value at risk in case of loan default. Proper credit risk monitoring and Controls, by used of proper credit risk management technique processes, would lead to good loan performance. Mwisekwa (2004) argues that loan performance depends on understanding the creditworthiness of the customers, loan repayment, interest rates and collateral securitization with proper credit risk management techniques processes, if adhered to, would enhance liquidity performance, reduce loan default and customer satisfaction. A summary of the foregoing is shown in figure 2.1.

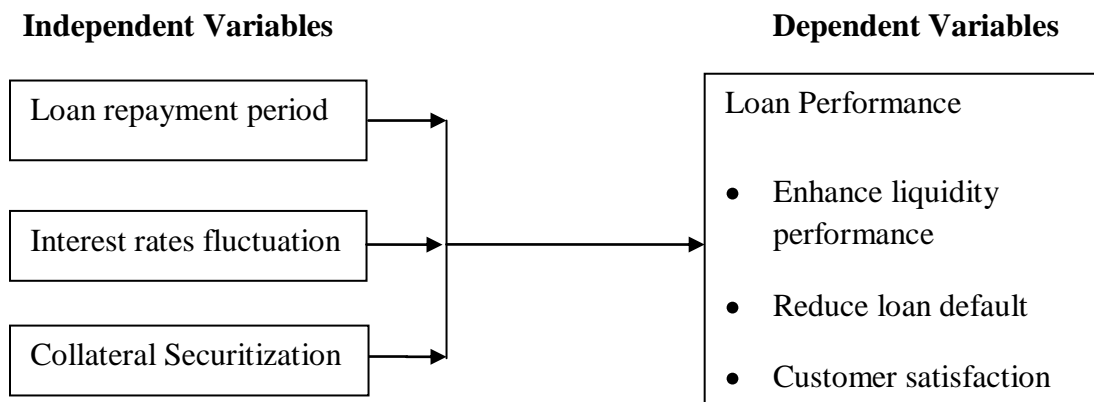


Figure 2. 1: Conceptual Framework

Author (2014)

2.6 Summary and Knowledge Gap

From the discussions, it is noted that most of the studies done in the Savings and Credit sector have not deeply analyzed the issue credit risk management techniques used by SACCOs and other financial institutions in reducing poor credit performance and the mechanisms used by financial institutions in dealing with those problems. This study aimed at filling the knowledge gap by focusing on a single SACCO that is the Moi University Savings and Credit Cooperative Society. It was hypothesized that information generated would shade more light on effects of credit risk management techniques on loan performance and measures to mitigate this.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview of the Chapter

This chapter provides a detailed explanation of the study area, methods and instruments that the study used in data collection and the techniques for data analysis and presentation.

3.2 Study Area

The study was conducted at Moi University Savings and Credit Cooperative (SACCO), Eldoret. The SACCO is located at Moi University's main campus with branches at University of Eldoret (Formerly Chepkoilel University College), College of Health Sciences and MUSCO towers in Eldoret town.

3.3 Research Design

Research design is an arrangement of condition for collection and analysis of data in a manner that aims to combine relevance of the information to the research purpose with economy as procedure (Kothari, 2006). For the purpose of this study a case study research design was employed because it provides a detailed intensive description and integrated investigation of a definitive unit such as work place or department in a comprehensive manner. This design also allows the use of various data collection methods such as questionnaires, observation, guided interviews and documentation which were used in collecting data in this study.

3.4 Study Population and Sample

The study was based on determine sample size from the target population.

3.4.1 Target Population

The target population for the study was about 2,782 respondents drawn from Moi University Savings and Credit Cooperative Society. The study collected data from various staff, credit and customer care departments and from different ranks and categories of permanent employees and members.

Table 3. 1: Target Population of the Study

S/No.	Type	Target Population
1	Top Level Management	12
2	Middle Level Management	4
3	Clerical Officers	16
4	Main Campus Members	1,564
5	Chepkoilel Campus Members	651
6	School of Medicine Members	535
Totals Target Population		2782

Source: MUSCO Records (2014)

3.4.2 Sample size determination

The study sample was composed of staff from top level management, middle level management and clerical managers as well as SACCO members drawn from various campuses to get views from staff and members.

A sample size of 242 respondents was obtained from a target population of 2782 people while adjusting to round off decimals to one person. Mugenda and Mugenda (2003), formula for calculating the sample size was used as follows:

$$n = Z^2 pq / d^2$$

Where; n - desired sample size, Z - standard normal deviation at a required confidence level (95%), p - the proportion in the target population estimated to have characteristic being measured, q = 1- p, d - the level of statistical significance

$$n = (1.96)^2(0.5) (1-0.5) / (0.05^2) = 384$$

$$nf = n / (1+ (n/N))$$

Where; nf - the desired sample size (Since population is more than 1,000), n - the desired sample size.

The concept of sample arises from the inability of the researchers to test all the individuals in a given population. According to Mugenda and Mugenda (2003) a sample size of between 10% and 30% of the target population is good enough for the determination of the right size of the sample. A sample size of 30% was applied to get a sample size of 242 respondents.

Table 3. 2: Distribution of Sample Size

S/ No	Category of Respondent	Target Population	Sample size Determination	Sample Size
1	Top Level Management	12	$(384/(1+(384/12)))*30%=4$	4
2	Middle Level Management	4	$(384/(1+(384/4))*30%=2$	2
3	Clerical Officers	16	$(384/(1+(384/16))*30%=5$	5
4	Main Campus Members	1,564	$(384/(1+(384/1564))30%=92$	92
5	Chepkoilel Campus Members	651	$(384/(1+(384/651))*30%=72$	72
6	School of Medicine Members	535	$(384/(1+(384/535))*30%=67$	67
Totals		2,782		242

Source: Author (2014)

3.5 Sampling Techniques

Stratified sampling is a probability sampling technique in which study objects are first divided into groups and the sample selected from each group. Stratified sampling technique was used to select the units of inquiry from the study population which included Managers, Heads of departments, credit officers, Sacco members and other staff involved in handling credit issues. In order to ensure that all important population sub-

groups were represented in the sample, a simple random sampling procedure was used to select 150 respondents out of a sample size of 242 respondents comprising of Sacco management, credit staff and members. Simple random was used to select 62% of the sample size from different categories. According to Ghosh (1982) a minimum of 1/3 of target respondents should be fair enough to a conclusion.

3.6 Data Collection Methods

This study used structured questionnaires, observations and interview schedule to collect data. Both primary and secondary data was collected.

3.6.1 Primary Data

The Primary data from credit departments was obtained using structured questionnaires and interviews. Use of questionnaires is advantageous in covering a larger number of respondents easily. The researcher distributed questionnaires to 242 selected respondents. Through observations the researcher tried to establish whether the SACCO upholds the credit risk management techniques on loan performance of co-operatives in the service delivery or not.

3.6.2 Secondary Data

Secondary data was collected to complement primary data. Information was obtained through reading credit manuals like KUSCCO SACCO stars, SACCO magazine and brochures, journals, SACCO and portfolio reports, credit policy, financial statements and loan repayment schedules. Secondary data was found to be free from respondents' bias since information documented represented real activities of the SACCO as at the end of a

financial year. Data collected was from annual financial statement reports for a period of five years.

3.7 Data Collection Instruments

The study used questionnaires, interview schedules and data tables as the main data collection instruments.

3.7.1 Questionnaires

Questionnaires were used to gather information from the SACCO's top and middle level management, clerical officers and SACCO Members. Information collected included techniques used by the SACCO in credit risk management, credit risk management scope and responsibility. Other information was on credit administration, measurement and monitoring procedure and effectiveness of techniques in the relevance of questions and determines if the questionnaire was comprehensive enough to collect the required information.

3.7.2 Interview Schedules

The researcher conducted interviews with SACCO officials so as to get their experience on the performance of loan provision and recovery in the SACCOs, and the ways used to mitigate problems related to credit. This was also done to get more clarification on issues that were not clear from questionnaire responses. Special attention was given to the heads of credit and Credit risk management, and the compliance and relationship managers.

3.7.3 Credit and Financial Data Tables

This research instrument was used to collect numerical data of each portfolio credit risk, loan schedules, interest rates and other credit risk related issues. Data tables were used to collect information from financial statements of 2008 to 2012 (See Appendix III).

3.8 Validity and Reliability of Research Instruments

3.8.1 Validity of Research Instruments

According to Mugenda (2003), validity is the accuracy and meaningfulness of inferences which are based on research results. It is the degree to which results obtained from the analysis of the data actually represents the phenomena under study. The questionnaire was therefore said to be valid when it measured the intended parameters. A test was done to ascertain that the content of the research instrument was valid. This served to ensure that the results produced were relevant to the content of the study.

As a means of testing the validity of the research instruments, the researcher scrutinized the tools with the assistance of the lecturers. The researcher also interacted freely with the respondents during the piloting period. The free and friendly atmosphere enabled the researcher to discover the shortcomings of the research instruments and was in a position to make the necessary adjustments before using them in the actual study.

3.8.2 Reliability of Research Instruments

Reliability refers to the consistency of a research instrument or the degree to which a questionnaire as a measuring instrument measures the same way each time it is used under the same condition. A measure is considered reliable if a research finding on the same test given twice is similar. Data reliability ensures that there is precision with which

data is collected. If the same results are obtained time after time, no matter how many times you conduct a piece of research, this suggests that the data collected is reliable (Mugenda and Mugenda 2003).

3.9 Pilot Testing

To ensure the reliability of the questionnaire to be used in the study, a pilot study was done. Pilot testing of questionnaires assisted in identifying gaps, ambiguities and determining how long the questionnaire took to complete. Pilot testing was done by administering 15 questionnaires prior the start of the research study. It was then tested using the Pearson moment of correlation to determine its reliability. A test re-test was also done in the same institution to be sure of its reliability.

3.10 Data Analysis and Presentation

Questionnaires were edited and responses coded and tabulated. Data was analyzed using the Statistical Package for Social Sciences (SPSS version 17.0). Descriptive statistics included determining frequencies and percentages while the chi-square test was used on selected variables. Findings are presented using charts, graphs and tables.

3.10.1 Descriptive Analysis

Descriptive statistics was used to determine means, percentages, and frequencies using the responses from staff with respect to their view on credit risk management techniques and other questionnaire items in appendix 1.

3.10.2 Inferential Statistical Analysis

The study used chi-square to test its hypotheses. The Chi-square test was used to test how likely it is that an observed distribution is due to chance and also differs from the expected. It is also called a "goodness of fit" statistic, because it measures how well the observed distribution of data fits with the distribution that is expected if the variables are independent. A Chi-square test is designed to analyze categorical data. That means that the data has been counted and divided into categories.

3.11 Ethical Considerations

The study acknowledged the importance of ethical issues in research and therefore, there was need to observe the ethical issues of confidentiality, integrity, honesty as well as respondents' rights while dealing with and getting information from them. The researcher ensured tolerance and patience throughout the research period. A letter was attached to the questionnaire explaining the purpose of the study and how the researcher maintained privacy, confidentiality and anonymity during their involvement in the study.

CHAPTER FOUR

RESEARCH FINDINGS

4.1 Overview of the Chapter

This chapter presents the results of the study. The findings are presented guided by objectives. The response rate was 62% since only 150 out of 242 questionnaires administered were returned and used in the analysis.

4.2 Socio-Demographic Characteristics of Respondents

Before embarking on the main objectives of the study, it was important to find out the background information of the respondents. This was ascertained by gender of the respondents, age, marital status and education level. Background information was important as it lays a foundation on which interpretation of the study are based.

4.2.1 Respondents Gender in Moi University SACCO

The results on demographic characteristics of the respondents are given in Table 4.1. Results show that majority of the SACCO members were males (73.3%, n = 150) and 26.7% were female.

Table 4. 1: Respondents Gender in Moi University SACCO

Gender Respondents	Frequency	Percent
No response	2	1.3
Male	110	73.3
Female	38	25.3
Total	150	100.0

4.2.2 Age of the Respondents on CRMT in Moi University SACCO

More than half of the respondents (62.6%) were 26-45 years, 24% were 46-55 years, 8.7% were less than 25 years of age and only 4.7% were over 55 years. The oldest respondent was 65 year old.

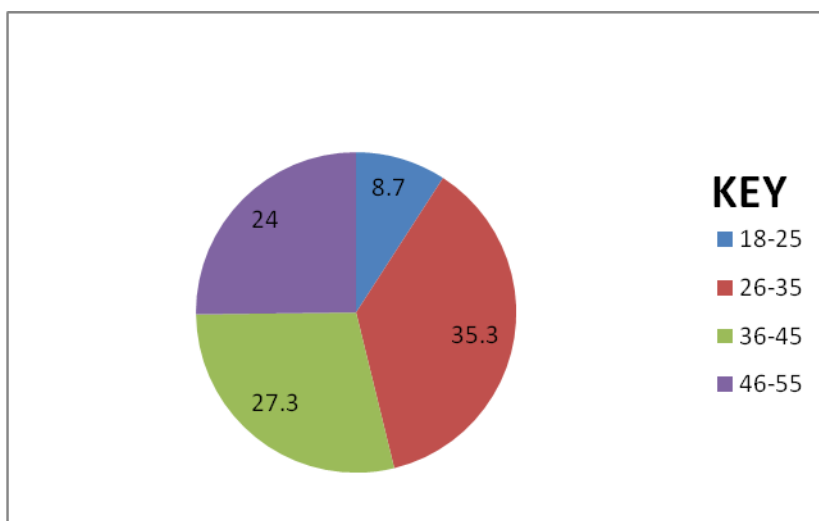


Figure 2. 2: Respondents Age in SACCO

4.2.3 Position of Respondents in the SACCO

Results on the hierarchy of management in the SACCO are presented in Table 4.2. The distribution of the respondents shows that 19.3% of the employees were in the middle level hierarchy followed by clerical officers with 14.7%, senior management (9.3%) and 2.7% are in top management (Board of Directors). More than half of the respondents were SACCO members.

Table 4. 2: Position of Respondent in SACCO

Position of Respondent in SACCO	Frequency	Percent
No response	1	0.7
Top management(Board of Directors)	3	2.0
Senior management	14	9.3
Middle level management	29	19.3
Clerical officer	22	14.7
SACCO member	81	54.0
Total	150	100.0

4.2.4 Work Experience in the SACCO

The results in Table 4.3, shows respondents work experience. From the results, 51.3% of the respondents had been in the SACCO for less than 8 years, 23.3% had been in the SACCO for 9-16 years, 17.3% had been in the SACCO for 17-24 years and 8% had been in the SACCO for over 25years.

Table 4. 3: Work Experience Bracket of Respondent in the SACCO

Work Experience in SACCO	Frequency	Percent
Less than 8 Years	77	51.3%
9 – 16 Years	35	23.3%
17 – 24 Years	26	17.3%
Over 25 Years	12	8.0%
Total	150	100.0

4.2.5 Level of Education

The level of education of the respondents shows that, Degree holders' account for the majority of the sample (82.7%). Diploma holders are 6.7% of the sample, 8.7% are secondary school level employees while primary school account for 1.3% of the sample.

Table 4. 4: Level of Respondent's Education by Frequency and Percentage in Moi University SACCO

Level of Education	Frequency	Percent
No response	1	0.7
Primary	2	1.3
Secondary	13	8.7
Diploma	10	6.7
Degree	124	82.7
Total	150	100.0

4.3 Credit Investment Decision Making in SACCO

Results on credit investment decision making in the SACCO are presented in Table 4.4. The results show that the SACCO makes credit investments decision in various ways with 46.1% of the respondents stating that the SACCO makes investment decisions through an Annual General Meeting, 25.3% indicated through Credit board of directors, 20.0% reported through board of directors, 5.3% said through financial managers and the least 3.3% stated through consultants.

Table 4.5: Credit Investment Decision Making of Respondent in SACCO

Credit Investment Decision	Frequency	Percent
Annual general meeting	69	46.1
Board of directors	30	20.0
Credit board of directs	38	25.3
Financial investment managers	8	5.3
Through consultants	5	3.3
Total	150	100.0

4.4 Loan Products Offered by SACCO

Results on the loan products offered by the SACCO show that 24.7% of the respondents had a development loan, another 24.7% had an emergency loan, and 22.7% had the fees loan probably for primary and secondary level education. The SACCO also gives college loan (6%) and SASA loan product (8.7%). Other loan services provided were suggested by 3.3% of the respondents.

4.5 Identification of Credit Risk Management technique

4.5.1 High Interest Rates

In reference to high interest rates, results show that 30% of the respondents agree that high interest rates lead to non-performing loans, 18.7% disagree while 5.3% strongly disagreed.

Table 4. 5: Views of Respondent on High Interest Rates on Loan Performance in the SACCO

	Frequency	Percent
No response	11	7.3
Strongly agree	52	34.7
Agree	45	30.0
Undecided	6	4.0
Disagree	28	18.7
Strongly disagree	8	5.3
Total	150	100.0

4.5.2 Poor Regulation

Results on poor regulation shows that 36% of the respondents agree that poor regulation can lead to non-performing loans, 10.7% did not agree, 7.3% were undecided while 9.3% gave no response.

Table 4. 6: Responses on Poor Regulation on Loan Performance in the SACCO

	Frequency	Percent
No response	14	9.3
Strongly agree	47	31.3
Agree	54	36.0
Undecided	11	7.3
Disagree	16	10.7
Strongly disagree	8	5.3
Total	150	100.0

4.5.3 Exchange Rate fluctuation

Results on the impact of exchange rate fluctuation show that 28% of the respondents agreed that it can lead to non-performing loans, 17.3% did not agree while 12.0% gave no response while 13.3% were undecided.

Table 4. 7: Responses on Exchange Rate fluctuation on Loan Performance in SACCO

	Frequency	Percent
No response	18	12.0
Strongly agree	38	25.3
Agree	42	28.0
Undecided	20	13.3
Disagree	26	17.3
Strongly disagree	6	4.0
Total	150	100.0

4.5.4 Weak Credit Management

Results on weak credit management show that 65.3% of the respondents agreed that it can lead to non-performing loans while 14.0% did not agree. The high number of respondents who agreed means it is prudent to look at the weak credit risk management in SACCOs.

Table 4. 8: Responses on Weak Credit Management on Loan Performance in the SACCO

	Frequency	Percent
No response	18	12.0
Strongly agree	54	36.0
Agree	44	29.3
Undecided	13	8.7
Disagree	17	11.3
Strongly disagree	4	2.7
Total	150	100.0

4.5.5 Lack of Credit Reference Bureau

Results on lack of credit reference bureau show that 60% of the respondents agreed that lack of credit reference bureau leads to non-performing loans. This is a high percentage and is an indicator that having a credit reference bureau is critical. Further, 8.7% of the respondents gave no response, 12% were undecided and only 19.3% disagreed.

Table 4. 9: Responses on Lack of Credit Reference Bureau on Loan Performance in the SACCO

	Frequency	Percent
No response	13	8.7
Strongly agreed	49	32.7
Agree	41	27.3
Undecided	18	12.0
Disagree	21	14.0
Strongly disagree	8	5.3
Total	150	100.0

4.5.6 Poor Lending Policies

Results on poor lending policies show that 68% of the respondents agreed that poor lending policies lead to non-performing loans, 17.3% did not agree, 9.3 % gave no response while 5.3% were undecided.

Table 4. 10: Responses on Poor Lending Policies on Loan Performance in Moi University SACCO

	Frequency	Percent
No response	14	9.3
Strongly agree	59	39.3
Agree	43	28.7
Undecided	8	5.3
Disagree	21	14.0
Strongly disagree	5	3.3
Total	150	100.0

4.5.7 Customer over Committed Income

Just like poor lending policies, over committed income by customers can easily lead to a non-performing loan as indicated by 71.3% of the respondents, 15.4% disagreed, 10.7% gave no response while 2.7% were undecided.

Table 4. 11: Responses on Customer over Committed Income on Loan Performance in Moi University SACCO

	Frequency	Percent
No response	16	10.7
Strongly agree	63	42.0
Agree	44	29.3
Undecided	4	2.7
Disagree	19	12.7
Strongly disagree	4	2.7
Total	150	100.0

4.5.8 Poor Loan Appraisal

Results on Poor loan appraisal shows that 68% of the respondents agreed that it contributes to non-performing loans with only 14% of the respondents not agreeing. Therefore loan appraisal is a factor to be looked into to avoid the rise of non-performing loans.

Table 4. 12: Responses on Poor Loan Appraisal in Moi University SACCO

	Frequency	Percent
No response	13	8.7
Strongly agree	51	34.0
Agree	51	34.0
Undecided	14	9.3
Disagree	14	9.3
Strongly disagree	7	4.7
Total	150	100.0

4.5.9 Undervalued Collateral Securitization

Results on undervalued collateral securitization revealed that showed that 55.4% of the respondents were in agreement that it leads to non-performing loans, 20% of the respondents were in disagreement, 16% were undecided and 8.7% of the respondents gave no response.

Table 4. 13: Responses on Undervalued Collateral Securitization on Loan Performance in the SACCO

	Frequency	Percent
No response	13	8.7
Strongly agree	40	26.7
Agree	43	28.7
Undecided	24	16.0
Disagree	21	14.0
Strongly disagree	9	6.0
Total	150	100.0

4.6 Effects of Credit Risk

4.6.1 Increased Returns

Results in table 4.4 show that the interest rate enhances increased good returns. From the results, 50.7% agree while 22.7% disagreed, this means that there is a relationship between interest rates charged on loans and increased returns. 16.0% of the respondents were undecided while 10.7% gave no response.

Table 4. 14: Response on Increased Returns on Loan Performance

	Frequency	Percent
No response	16	10.7
Strongly agree	42	28.0
Agree	34	22.7
Undecided	24	16.0
Disagree	16	10.7
Strongly disagree	18	12.0
Total	150	100.0

4.6.2 Undervalued Collateral Securitization

From the table, results indicate that undervalued collateral securitization does not enhance increased fund level. As indicated by 55.4% of the respondents were in agreement and 14% disagreeing. These results show a weak relationship between undervalued collateral securitization and increased fund level since 16% of the respondents were undecided while 8.7% did not give any response.

Table 4. 15: Responses on Undervalued Collateral Securitization on Loan Performance in the SACCO

	Frequency	Percent
No response	13	8.7
Strongly agree	40	26.7
Agree	43	28.7
Undecided	24	16.0
Disagree	21	14
Strongly disagree	9	6
Total	150	100.0

4.7 Correlation Results between Interest Rate and Loan Performance of SACCO

Results presented in Table 4.16 show the correlation between loan performance and interest Rates (Short Loan Repayment, Exchange rate fluctuation period, and Poor regulation), using the Pearson correlation coefficient. The correlation matrix presented shows that interest rates have a strong significant positive relationship with loan performance as indicated by Pearson correlation coefficient values of 0.507, 0.896 and 0.765 and a p value of 0.000, 0.003 and 0.000 respectively.

Table 4. 16: Correlation Results between Interest Rate and Loan Performance of SACCO

		Short Loan Repayment period	Exchange rate fluctuation	Poor regulation
Loan	Pearson Correlation	0.507	0.896	0.765
Performance	Sig. (2-tailed) N	0.000	0.003	0.000

Correlation is significant at the 0.01 level (2-tailed).

Source: Research Data, 2014

4.8 Effects of Loan Repayment Period on Loan Performance of the SACCO

4.8.1 Loan Repayment

Results on respondents' loan repayment period show that 49.3% of the respondents agree that a short loan repayment period is a cause of non-performing loans, 28.6% did not agree, 11.3% were undecided while 10.7% did not respond. These results imply that although a short loan repayment period can easily lead to a non-performing loan, the

same situation is displayed by those with long loan repayments. Only 34% disagreed, 8.7% gave no response and another 8.7% were undecided.

4.8.2 Causes of Loan Default

The cause of loan default was sought from the respondents and results shown in Table 4.17 indicate that overcommitted pay slips account for 22% of the loan defaulters, suspended or sacked employees accounted for 29.3%, interference with SACCO loan recovery were 13.3 % and poor tracking hence taking long to recover loans was 15.3% of the sample.

Table 4. 17: Respondent Views on the Causes of Loan Default in SACCO

	Frequency	Percent
No response	30	20.0
Overcommitted pay slips	33	22.0
Employer suspending or sacking employee	44	29.3
Interference with SACCO recoveries	20	13.3
Poor tracking hence taking long to recover loans	23	15.3
Total	150	100.0

4.8.3 Overall Loan Default Percentage

Results in Table 4.18 further show that the loan default percentage is low (2%) as reported by 66.7% of the respondents while 33.3% of the respondents. This could be an indicator that they are not informed or do not work in the department dealing with loan defaults.

Table 4. 18: Overall Loan Default Percentage

Responses	Frequency	Percent
No Response	50	33.3
Less than 2%	100	66.7
Total	150	100.0

4.9 Credit Follow Up Contributes to Poor Performance

Results in Table 4.19 show that non-credit follow-ups contribute to poor performance in loan lending by the SACCO. From the results 46% of the respondents agreed it contributes to poor performance while 39.3% disagreed. However, poor lending procedures contribute to poor performance as indicated by 138 (85.3%) of the respondents who agreed while only 9 (6%) of the respondents disagreed. Generally the percentage of respondents who gave no response or were undecided is low (14.7%).

Table 4. 19: Responses on Credit Follow Up Contributes to Poor Performance in the SACCO

Response	Frequency	Percent
Undecided	22	14.7
Disagree	59	39.3
Agree	69	46.0
Total	150	100.0

4.10 Liquidity and Credit Risks

Results in Table 4.20 on the liquidity and credit risks indicate that majority of the respondents, (79.4%) of the respondents agreed with the statement, 10% disagreed and 6.0% gave no response while 4.7% were undecided. From the results shown in the table, it can be concluded that supplying liquidity to a constrained firm is very risky since it reduces the probability of payment.

Table 4. 20: Responses on Liquidity and Credit Risks on Loan Performance in the SACCO

Response	Frequency	Percent
No Response	9	6.0
YES	119	79.4
NO	15	10
Undecided	7	4.7
Total	150	100.0

4.11 Waiting Period and Repayment

Results in table 4.21 further show that there is a waiting period between repayment and the disbursement of a subsequent loan. 64.7% of the respondents responded yes to this and 27.3% stated no and only 8% gave no response.

Table 4. 21: Views of Respondent on Waiting Period and Repayment on Loan Performance in the SACCO

Response	Frequency	Percent
No Response	12	8
YES	97	64.7
NO	41	27.3
Total	150	100.0

4.12 Collateral Securitization on Loan Performance

In relation to whether collateral securitization has an effect on loan performance, 64.7% of the respondents agreed with the statement, 27.3% of the respondents disagreed and only 27.3% of the respondents gave no response.

Table 4. 22: Responses on Collateral Securitization on Loan Performance

Response	Frequency	Percent
No Response	12	8.0
YES	97	64.7
NO	41	27.3
Total	150	100.0

4.13 Kinds of Collateral Accepted for Loan Securitization in the SACCO

Collateral securitization is one of the important activities that SACCOs engage in the study therefore sought to find out what collateral securitization the SACCO accepts. Results from Table 4.12 indicate that 15% of the respondents accept vehicles as security

for some types of loans, while 17% reported that land can be used as a collateral securitization. However, acceptance of animals and household goods secured is not allowed by the SACCO although all the respondents could not agree on this. This implies that animals and household goods like furniture do not appeal as collateral securitization for the SACCO. Hence it was clear that personal guarantees are heavily utilized by the SACCO since 26% of the respondents reported accepting this. Group guarantees are supported by 12% of the respondents who get loans sighted by a pool of members whereas 60% of the respondents did not agree. The key collateral securitization is the use of shares, and 29% of the respondents agreed that shares form a major part of the collateral securitization.

Table 4. 23: Kinds of Collateral Accepted for Loan Securitization in the SACCO

Kinds of Collateral Securitization	Frequency	Percent
Vehicles	23	15
Land	26	17
Personal guarantees	39	26
Group counted	18	12
Shares	44	30
Total	150	100.0

4.14 Savings / Deposits Used by the SACCO for Onward Lending

Another factor accounting for non-performing loan is undervalued collateral securitization. The results in Table 4.5 show 55.4% of the respondents agreed that undervalued collateral securitization is a factor for non-performing loan, 20% (30) did

not agree, 8.7% gave no response and 16.0% were undecided. Despite this, it is clear that concerns about the statement shows that the factor is very important.

Results on savings /deposit used for onward lending by the SACCO are presented in Table 4.13. These results show that 67% of the respondents agreed that client saving is must before a loan is given by the SACCO. 77.3% of the respondents further agreed that savings / deposits are used by the SACCO for onward lending. Likewise, 56.7% of the respondents agreed that the SACCO has credit risk management techniques on loan performance assessment.

Table 4. 24: Savings / Deposits Used by the SACCO for Onward Lending

Responses	Yes	No	No response
Client savings before a loan is awarded	67	30	3
Are deposits used for onward lending	77.3	12.7	10
SACCO have credit risk management technologies	56.7	32.7	10.7

4.15 Credit Risk Management Techniques used by the SACCO

The study sought to find out if the SACCO engages in any ways to determine the good portfolio credit risk management techniques (CRMT). One of the CRMT portfolios is use of SACCO staff expertise. Results in table 4.25 show that, 64.7% of the respondents' use the SACCO staff expertise, 21.3% disagreed and only 14% did not give any response. 48.8% agreed that information signal from the market environment is applied, though 35.3% reputed and 16.7% gave no response. Also in line is the quick returns impulse as reported by 32.2% of the respondents, 48% disagreed and 19.3% did not give a response.

Table 4. 25: Responses on Credit Risk Management Techniques used by the SACCO on Loan Performance

Response	No	Yes	No response
Use of SACCO staff expertise	21.3	64.7	14
Informal signal from the market environment	35.3	48	16.7
Where there is quick return impulse	48	32.7	19.3

4.16 Factors Leading to Success and Liquidity Performance of the SACCO

4.16.1 Improved Loan Performance

Results in table 4.26 show the views of respondents on whether credit risk management techniques on loan performance have any importance on the SACCO's performance. Those respondents who did not respond were 10% of the sample. However, 70% of the respondents ascertained that credit risk management is important on the SACCO's performance while 4.7% of the respondents disagreed.

Table 4. 26: Views of Respondent on Proper Credit Risk Management Improved Loan Performance in the SACCO

Response	Frequency	Percent
No response	15	10.0
Strongly agree	54	36.0
Agree	51	34.0
Undecided	23	15.3
Disagree	4	2.7
Strongly disagree	3	2.0
Total	150	100.0

4.16.2 Improved Credit Risk Management Awareness

Results on improved credit risk management awareness revealed that 77.3% of the respondents did agree that improving credit risks management techniques by the SACCO can improve its success and liquidity, 8% of the respondents disagreed, 3.3% were undecided while 11.3% gave no response.

Table 4. 27: Responses on Improved Credit Risk Management Awareness on Loan Performance in SACCO

Response	Frequency	Percent
No response	17	11.3
Strongly agree	36	24.0
Agree	80	53.3
Undecided	5	3.3
Disagree	1	0.7
Strongly disagree	11	7.3
Total	150	100.0

4.17 Financial Performance of the SACCO

Results in data tables in appendix III from annual reports of 2009, 2010, 2011 and 2012 portfolio at risk as a percentage of total outstanding loans are 9%, 13%, 6% and 7% respectively. The trend implies there is a portfolio at risk which shows existence of a gap of bad loan performance and has been decreasing from 9% in 2009 to 7% in 2012.

4.18 Hypothesis Testing

H01 There is no relationship between Interest rates and the loan performance of SACCO

Hypothesis one stated that there is no relationship between Interest rates and loan performance of the Sacco. To achieve this, a chi-square statistic test was used. The chi-square test for independence, also called Pearson's chi-square test or the chi-square test of association, was used to assess if there was a relationship between interest rates and loan performance in the SACCO. Results are shown in the Table 4.28:

Table 4. 28: Chi-Square Test Results on Relationship between Interest Rates and Loan Performance of the SACCO

	Value	Df	Asymp sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-square	13.487	1	0.485	
Continuity Correction	1.216	1	0.001	
Like hood ratio (p value)	1.487	1	0.004	

From the chi-square results above, we can see $\chi^2 (1) = 13.487$, $df = 1$, $p = 0.004$ where $p < 0.05$.

H0₂ There is no significant relationship between loan repayment period and loan performance of a SACCO

Hypothesis two stated that there is no significant relationship between repayment period and loan performance of the SACCO. The Chi-square results are presented in Table 4.29.

Table 4. 29: Chi-Square Results on Repayment Period and Performance of the SACCO

	Value	Df	Asymp sig. (2-sided)	Exact Sig. (2 sided)
Pearson Chi-square	11.321	1	0.324	
Continuity Correction	1.326	1	0.002	
Like hood ratio (P value)	1.237	1	0.000	

From the Table 4.17, the chi-square statistics of 11.321, df of 1 and p value of 0.000 ($p < 0.05$)

H0₃ There is no relationship between the influence of Collateral Securitization and loan performance

Hypothesis three stated that there is no significant relationship between the influence of Collateral securitization and loan performance of a SACCO. Chi-square results are shown in Table 4.30.

Table 4. 30: Chi-Square Test Results on Collateral Securitization and Performance of the SACCO

	Value	df	Asymp sig. (2-sided)	Exact Sig. (2 sided)
Pearson Chi-square	14.021	1	0.324	
Continuity Correction	1.117	1	0.001	
Like hood ratio	1.115	1	0.000	

From table 4.30 the chi-square value of 14.021, df of 1 and p value of 0.000 ($p < 0.05$) shows a relationship between Collateral Securitization and loan performance of the SACCO.

According to the results in table 4.31, in year 2009, out of the Kshs 697 million outstanding loans to customers 9% were non performing loans, in 2010 out of Kshs 820 million outstanding loan 13% were the non performing loans. In the year 2011, out of Kshs 639 million outstanding loan, 6% were non performing while in 2012 out of Kshs 565 million of outstanding loans 7% were non-performing loans.

Table 4. 31: Summary of the SACCO's Loans Performance

Year	Outstanding loans (Kshs)	Performing loans	Nonperforming loans	Outstanding loans to non performing
2009	696,579,128	631,264,398	65,314,730	9%
2010	819,811,267	715,109,145	104,702,122	13%
2011	638,776,375	601,664,256	37,112,119	6%
2012	564,785,054	526,662,907	38,122,147	7%

Source: SACCO Annual Reports, 2009 – 2012

CHAPTER FIVE

DISCUSSIONS

5.1 Overview of the Chapter

This chapter focuses on the discussion of the study findings guided by the research objectives and hypotheses of the study.

5.2 Role of Socio-Economic Characteristics in Influencing the Management and Performance of the SACCO

This section discusses the socio-demographic information on the hierarchy of management job positions, departments in the SACCO, experience of the respondents and status of the SACCO's credit position which are important as they lay a foundation on which the interpretation of the study is based.

As indicated in finding in tables 4.1, most of the SACCO managers were averagely aged across all the SACCO personnel and were productive enough to control the SACCO'S credit operations. According to Coulson-Thomas, 2007a), although there is need for diversity, complementary qualities, and a variety of experiences, in practice, many management personnel still appear to consist of people with very similar backgrounds, and drawn from a narrow segment of the society. The membership of many management officers remains disproportionately composed of males in middle age, or in the case of some larger organization, late middle age, even though key stakeholders in the organization, and with whom the management officers needs to achieve a rapport and mutual understanding, may have very different characteristics. Findings showed that the

SACCO is composed of able people of an energetic age who are able to achieve the desired goals of the organization.

The success of a firm is measured by its profitability which depends on the efficiency of its management. Employees understand their role in the growth of an organization; hence act to secure the source of the SACCO's livelihood. Result in Tables 4.1 show the respondents' period of service provision coupled with their wide experience in the running of SACCOs are likely to provide the desired results. The study results concurred with those of Michael and Mark, (2008) who stated that the SACCO management aimed at benefiting, among others, the management teams who are the people entrusted by the members to take care of their interests in the SACCO. They will strive to understand and improve on the policy setting and implementation for overall sustainability of the sector.

Results showed that majority of the SACCO staff are degree holders. These findings concur with that of KUSCCO, (2006) that SACCOs have all the hierarchy of management with well educated and trained staff. These are key employees in the organization who can offer better services, because they are well equipped with knowledge to facilitate management of credit risk management skills operations. This implies that the SACCO management will be more efficient and effective in whatever they do in the organization. Findings further showed that responsibility for credit investments decision in the SACCO is done through annual general meetings and the board of directors. These findings concurs with others documented that decision making is critical and important for the growth of the SACCO's performance.

5.3 Effects of Interest Rate Fluctuation on Loan Repayment in the SACCO

Results revealed that there was a negative relationship between loan performance and high interest rates and the relationship was significant. This indicates that lowering interest rates does reduce bad loan repayment. These findings concur with those of Mwaisekwa (2004) who eluded that high interest rates leads to adverse selection of loan seekers that affect loan repayment thus implying that low interest rates have a positive effect on loan repayment.

Likewise, findings on poor regulation showed that poor regulation, exchange rate fluctuation, weak credit risk management, lack of credit reference bureau, poor lending policies, over committed income by customers and Poor loan appraisal are a clear indicators that a loan can be in the category of non-performing. This therefore implies that exchange rate fluctuation has a bearing on loan performance. According to Sinkey (1989), consumers may even find it difficult to meet their existing loan repayments, especially if interest rates increase faster than the rise in a consumer's income. If interest rates rise sharply and stay high for a long period, some consumers may default on their loans.

The foregoing discussion clearly indicates that a weak credit management can lead to non-performing loans. Credit disclosure for transparency in credit risk saving and credit risk are particularly important since weak credit risk management practices and poor credit quality continue to be a dominant cause of SACCO failures and financing crisis worldwide. Lack of a credit reference bureau leads to non-performing loans and is a clear indicator that a credit reference bureau is critical and important in SACCO growth on

good loan performance. According to Mwisekwa (2004), poor lending policies and poor loan appraisal are a factors leading to non-performing loans. This implies that loan appraisal is an initial factor to be looked into to avoid the rise in non-performing loans in an organization.

Results on interest rates on loans showed that interest rate enhances increased good returns. These findings concur with those of Ndazi (2001) who argued that there is a relationship between interest rates on loans and increased returns, but interest rate does not enhance increased fund level.

5.4 Factors that Influence Adherence Loan Schedule in the SACCO

Results on the correlation matrix in Table 4.7 shows that interest rates have a strong significant positive relationship on loan performance. Hence, in analyzing the correlation between loan performance and interest rates (Short Loan Repayment, Exchange rate fluctuation period, and Poor regulation), the Pearson correlation coefficient matrix showed that interest rates have a strong significant positive relationship with loan performance and hence can affect loan performance. These findings concur with that of Amonoo *et al* (2003).

5.5 Effects of Loan Repayment Period on Loan Performance of the SACCO

Results on loan repayment period showed that short loan repayment period is a cause of non-performing loans. These imply that a short loan repayment period can easily lead to a non-performing loan. Despite this, findings revealed that there is positive relationship between good loan repayment and a long repayment period. This finding is consistent with researchers' expectation. According to Malimba and Ganesan, (2009), an

understanding of socio-economic factors affecting loan repayment behavior of clients is essential for outreach and sustainability of mushrooming cooperative societies in Kenya. Consequently, it can be argued although the foregoing relationship is significant, as the low repayment period increases, it will reduce the cash flow burden. Ultimately if the repayment period increases, it will reduce the possibility of losses in SACCOs. This is contract with where the SACCO's long repayment is considered to be more at risk due to the fact that the future is uncertain.

Results indicated that overcommitted pay slips, the employer suspending or sacking an employee, interference with the SACCO's loan recovering and poor tracking of loans hence taking long to recover loans are the major causes of loan default in SACCOs (Malimba and Ganesan, 2009). The overall level of loan default is as shown in Table 4.9 where the default percentage is low (less than 2%). Since respondents did not respond, it could be an indicator that they are not informed or do not deal in the relevant department dealing with loan defaults.

To determine the effect of the repayment period on loan performance, results showed that non credit follow-ups contribute to poor performance in loan lending by the SACCO. These findings relate with repayment period and it contributes to poor performance if credit follow-up is not monitored. According to Mwaura (2005), regular credit follow-up and monitoring of loan repayment is important for identifying signals of loan performance weaknesses.

Results on the liquidity and credit risks indicated that supplying liquidity to a constrained customer is very risk as it reduces the probability of payments and increases moral

hazards problems. This implies that the supplying firm would also experience liquidity problems and high costs resulting from late payments that would further affect profitability of the firm. These findings show that liquidity supply to a risky customer will increase chances of default rate on loan repayment period and loan performance. Good loans are loans that are repaid according to the terms and conditions agreed on when they were issued. Shango (2000) reported that in most cases loans are known to be a good source of financial institution profitability if not defaulted. SACCOs can adopt various forms of credit risks assessments which help to assess effects of loan performance.

Results showed that there is a waiting period between repayment and the disbursement of a subsequent loan. These findings concur with those of (Mudibo, 2005) who reports that with the Credit administration desired, loan analysis based on repayment capacity, loan size limited by capital amount requirements available and loan write-downs on quarterly eliminations is necessary.

5.6 Influence of Collateral Securitization on Loan Performance

Results on the above showed that the issue of loans requiring guarantors or securities is a norm and that customers received no training on optimal loan utilization before taking the loan. Further it was evident that there is positive relationship between good loan performance and collateral and guarantors or securities. This relationship is significant and positively concurred with findings on the same from other studies like Voordeckers and Steijvers (2006) who emphasized on collateral as one of the most determinants to the recovery for credit. They correlated this with comparisons between business collateral and personal commitments. These authors argued that collateral is pledged in order to

reduce risks as a result of asymmetric information, adverse selection and moral hazard. They argue that collateral is important because it reduces the cost to the lender if the borrower defaults, adds an incentive for the borrower to repay thus reducing moral hazards and it mitigates the problem of adverse selection by enabling the lender to screen out borrowers most likely to default. These observations indicate that non-repayment on loan can be due to other factors like the willingness of borrowers.

Results on the kind of collateral and securitization accepted by the SACCO showed that collateral securitization is one of the important business activities to consider before a SACCO engages in loan approvals. The kind of collateral securitizations accepted by MUSCO are personal guarantees through shares in SACCO, vehicles, and land which is accepted for some types of loans. Result on undervalued collateral securitization showed that it is a factor for non-performing loan. This implies that the factor is very important, and helps to avoid undervaluation of collateral securitization in lending businesses. According to Juvenalis (2010), a guarantee will not extend to any collateral where guarantors cannot equally share the liability of the defaulting member, and guarantors with more shares and deposits will bear the liability over and above those guarantors with less shares and deposits. This therefore implies that proper assessment of collateral valuation factor helps the SACCO's management to understand the financial condition of all borrowers and they will be able to promptly detect all problem loans for remedial action to be taken.

Clients are required to have a savings before a loan is given. Results on savings / deposit used for onward lending presented in table 4.13 showed that savings / deposits are used

for onward lending and also act as credit risk management techniques on loan performance assessment. This concurs with results of Michael and Mark, (2008) that capital adequacy is a key indicator of the financial stability of a financial institution enabling a SACCO to withstand losses from unforeseen problems.

Results on the credit risk management techniques portfolio by the SACCO given in table 4.13 show that clients are required to have a savings before a loan is awarded. Likewise savings / deposits used for onward lending by the SACCO have an impact on credit risk management techniques on loan performance assessment. This implies that the SACCO should engage in ways to determine good portfolio credit risk management techniques (CRMT) and concurs with those of Wilson, (1997b) who argues on the necessity of assessing the need of the credit risk portfolio in an organization. CRMT portfolios include use of SACCO staff expertise, applying information signal from the market environment and quick returns impulse signaled. Results in Table 4.14 show that credit risk management techniques on loan performance are important as far as the SACCO's performance is concerned. These findings concur with those of Michael and Mark, (2008) who argues that credit risk management is important on SACCO performance.

Results on strategic management assessment on credit risk management techniques on loan performance showed that this can improve SACCO's success and liquidity. According to Sinkey (1989), credit risk has always been the central risk in the financial sector intermediation. Credit or default risk refers to "the uncertainty associated with borrowers' repayment of their loans". It represents a potential loss that may occur for creditors as a result of borrowers' non-payment for matured loans. This implies that a key

to successful strategic management is not to entirely avoid the risks, but to properly balance the risks against the rewards from potential profits. Amongst the most critical prudential standards was the maintenance of liquidity ratio at 10% of total deposits, capital adequacy at 10% of total assets and provision for bad and doubtful debts at 100% of total loans for those that were over one year old. Using these basic performance standards, the SACCO should be able to improve its capital adequacy, liquidity and performing loans ratios.

Results shown in data tables of financial statements in Appendix III on annual reports show a trend that reveals there is a portfolio at risk which shows the existence of gap of bad loan performance. These results concur with those of Mwisekwa (2004) who notes that a gap of portfolio at risk on loan performance is necessitated when there is need to look into the credit risk management techniques used by a SACCO to reduce the existence of bad loan performance through proper implementation of CRMT portfolios based on the SACCO staff expertise, applying information signal from the market environment and quick returns impulse signals.

Results on the chi square statistic test results (See table 4.16) on interest rates and loan performance of the SACCO revealed that interest rates affect the loan performance of the SACCO. Findings further showed that there is a statistically significant association between Interest rates and the loan performance of a SACCO ($\chi^2 = 13.487$). It was also evidenced from the chi square statistic results in table 4.17 on loan repayment period and loan performance of the SACCO that there is a relationship between repayment period and loan performance in the SACCO ($\chi^2 = 11.321$). This implies that the repayment

period of a loan affects the loan performance of a SACCO. According to Juvenalis (2010), SACCOs lend money without tangible collateral and the security of loans is provided by the check-off system as well as the deductions from wages and salaries by employers for savings and loan repayment. Each loan should be guaranteed by at least one or more members of the SACCO as is regulated in the SACCOs by-laws. Results in table 4.18 show that the chi square statistics of collateral securitization and performance of the SACCO, and reveals a relationship between Collateral Securitization and the loan performance of the SACCO. This implies collateral securitization affects loan performance of the SACCO. The process of securitization transforms smaller loans into a larger, more uniform, liquid security thus improving the performance of SACCOs.

Results in Table 4.19 reveal that with the increase in number of credit risk portfolios, still non-performing loans exist. This implies that the techniques that are used by the SACCO put it in a position to experience a low percentage of non-performing loans as compared to total outstanding loan. These findings concurs with those of Cole *et al.* (2005) who asserts that the review of portfolio credit risk assessment management can contribute to the success of organizations in three primary arrears namely: how the portfolio credit risk assessment problem has been defined and redefined over time in response to the changing information needs of lenders and regulators, how methodological innovations have improved portfolio credit assessment procedures, and, how the efficiency of financial markets has changed due to the evolution of portfolio credit risk assessment. However, how transactional and relationship lending approaches are expected to evolve in the future and whether measures can be developed to more accurately assess factors such as

management capacity and commitment to loan can be a sign of the usefulness of the mechanism through which the SACCO is able to manage the credit risk.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Overview of the Chapter

This chapter covers summary of the research findings, conclusions and recommendations.

6.2 Summary of Major Findings

The purpose of the study was to examine the credit risks management techniques on loan performance in SACCOs and assess whether the techniques are helpful in reducing bad loan performance in lending business. Three research objectives were formulated to guide the study namely: to analyze the impact of interest rates fluctuation on loan repayment, determine the effect of repayment period on loan performance of a SACCO and to examine the influence of Collateral Securitization on loan performance. The study applied a case study research design. The target population consisted of 2,782 respondents drawn from Moi University Savings and Credit Cooperative Society. Data was collected through the use of questionnaires and an interview schedule.

6.3 Conclusion

Based on the results of the study, various conclusions are made. First, decision making is critical and important for the growth of the SACCOs. Although the annual general meeting makes decisions; board directors make credit decisions and investments on development loans. A short loan repayment period is a cause of non-performing loans and a short loan repayment period can easily lead to a non-performing loan. Poor regulation can lead to non-performing loan thus implying that poor regulation is a clear indicator that a loan can be in the category of non-performing. Exchange rate fluctuation

can have a bearing on loan performance and a weak credit management can lead to non-performing loans. The high number of respondents means it is prudent to look at the weak credit risk management in SACCOs.

Lack of credit reference bureau leads to non-performing loans and an indicator that it is a critical factor of loan performances. Another factor leading to non-performing loan could be poor lending policies. Poor loan appraisal is another factor that contributes to non-performing loans. Another factor for non-performing loan is the undervalued collateral securitization. Cause of loan default included overcommitted pay slips, employer suspending or sacking employee, interference with SACCO recovering loans and poor tracking hence taking long time to recover loans.

The second objective of the study was to determine the effect of loan repayment period on loan performance of a SACCO. Poor lending procedures contribute to poor performance. Generally collateral securitization is one of the important businesses that SACCOs engage in, before a loan is awarded to the borrower. Although more emphasis is put on shares for collateral securitization, it was clear that vehicles are accepted for some type of loans, land can be used as a collateral securitization and personal guarantees are heavily utilized by the SACCO. Weakness in the SACCO system may be where there are special provisions for others to take loans without personal guarantees. The key collateral securitization is the use of shares, and clients are required to have a savings before a loan is awarded.

The SACCO uses various mechanism to determine good portfolio credit risk management techniques (CRMT).Among these are tapping the SACCOs staff expertise,

use of information signal from the market environment and proper use Credit risk management techniques measurers to monitor credit follow-up on loan performance, hence enhancing the SACCO's performance.

6.4 Recommendations

Based on the findings and conclusions of this study, the following recommendations are proposed:

6.4.1 Recommendations for Management of the SACCO

It is important for the SACCO to ensure that people with credit management thinking skills and experience are involved in credit risk portfolio review from time to time at minimum annually and report their findings to the Board of Directors and the Senior Management of the SACCOs.

The SACCO should protect itself from unforeseen contingencies of loan default due to the fact that the future is uncertain. This can be realized by adopting protective measures such as risk insurance being among others. Using such instruments, the risk of losing enormous amount of fund through credit default can be avoided or minimized.

People outside the credit process such as shareholders, senior managers, directors and politicians should not influence the credit decision in the SACCO. This is crucial due to the fact that if the loan is given through influence even the follow up is difficult by staff.

A strategy to increase a loan repayment period should be adopted to expand and maintain the existing market niche. A longer period of loan repayment provides better terms to

borrowers who are required to pay lesser amount per installment while collecting substantial amount as principal loans.

The SACCO's management should ensure that there are timely and adequate actions taken on problem events or risks which may give rise to loan default to prevent accumulation of portfolio losses and bad loan performance.

The SACCO has to educate its borrowers on the necessity of paying their debts and train its staff and management on effective debt follow up. In doing this, the SACCO should have a program to conduct seminars and workshops to their borrowers so that borrowers are educated and know the meaning of a loan and the importance of paying it back within the specified repayment period. This will instill discipline in the SACCO's membership and inculcate the sense of saving promptly and using wisely.

The SACCO should have a system of making staff accountable for the bad quality of the credit risk portfolio. This will make the staff more vigilant knowing that they will be held responsible for any bad performance of the loan.

6.4.2 Recommendations for Further Research

The following are the researcher's suggestions for further study:

1. A comparative study of credit risk management techniques should be undertaken in another SACCO or more SACCOs operating along the same principles for the purpose of studying different strategies used to combat credit risk management.
2. Credit risk management techniques in community welfares.
3. Evaluation for a need of protective measures against credit risk.

4. Perceived stakeholder attitude and perception towards loan repayment default and its impacts on the loan performance of SACCOs.

REFERENCES

- Alan Greenspan (2002), *International Financial Risk Management*, Washington DC.
- Amonoo E., Kojo P. and Asmah E. (2003), *The Impact of Interest Rates on Demand for Credit by the Poor and SMEs in Ghana*, IFLIP Research Paper 03-10.
- Babble D. and Santamero A. (1997), *Financial risk Management by Insures, An analysis of the process. Journal of risk and insurance* 64, 231-270
- Bald J. (2007), United States Agency for International Development, (USAUD), Consultant, Frankfurt School of Financial Management for Chemonics International Inc. Treasury Management for SACCOs, (April 2007).
- Basel Committee Publication (2000), *Principle for Management of Credit risk*, pp.4-11.
- Bessis J. (2002), *Risk Management in Banking*, John Wiley and Sons Ltd United Kingdom.
- Borio, Claudio E.V. and Wilhelm F. (1995), *Response of Short-Term Bank Lending Rates to Policy Rates: A Cross-Country Perspective. Bank for International Settlements, Monetary and Economic Department, Working Papers (International)*, No. 27, May.
- Brent A. G., Eddy L. L. and Michael A. G. (2005), *Credit risk migration and Downgrades experienced by agricultural lenders. Agricultural Finance Review*, Vol. 65, Issue: 1, pp.1 – 16.
- Brom and Karla (2009), *Asset and Liability Management for Deposit-Taking Microfinance Institutions. Focus Note 55. Washington, D.C. CGAP*, June 2009.
- Chijoriga M. M. (2011), *Application of multiple discriminant analysis (MDA) as a credit scoring and risk assessment model, International Journal of Emerging Markets*, Vol. 6 Iss: 2, pp.132 – 147.

- Cole R. G., Glen D. P. and Brent A. G., (2005) "Credit Risk Assessment", *Agricultural Finance Review*, Vol. 65 Iss: 2, pp201 – 217
- Coulson-Thomas, C. (2007a); Competences of an effective director. *Developing Directors, Policy Publications, Water Newton*, pp. 1-9.
- Cyree K. B., Huang P. and Lindley J. T. (2012), "The Economic Consequences of Banks' Derivatives use in Good Times and Bad Times"; *Journal of Financial Service Research*; June 2012, Volume 41, Issue 3, pp.121-144.
- Danielsson, J. (2002), 'The emperor has no clothes: Limits to risk Modeling', *Journal of Banking and Finance*, 26(7), pp. 1273-96.
- Derban K. W., Binner M. J. and Andy M. (2005), Loan Repayment Performance in Community Development Finance Institutions in the UK; *Small Business Economics*; November 2005, Volume 25, Issue 4, pp 319-332.
- Edward I. A., Brooks B., Andrea R., and Andrea S. (2005), *The Journal of Business*, Vol. 78, No. 6 (November 2005), pp. 2203-2228.
- Federico F. (2010), A European Perspective on Consumer Loans and the Role of Credit Registries; the Need to Reconcile Data Protection, Risk Management, Efficiency, Over-indebtedness and a Better Prudential Supervision of the Financial System; *Journal of Consumer Policy*; March 2010, Volume 33, Issue 1, pp 1-27.
- Froot K. A. (1995), Risk Management, Capital budgeting and capital structure Policy for Financial Institutions: An integral Approach. *The working paper Series in Wharton Financial Institution Centre*.
- Ghosh, B.N. (1982), *Scientific Methods and Social Research*, New Delhi: Starling Publishers.
- Harald H. and Claudia S. (2009), Securitization: A Funding Alternative for Microfinance Institutions; *New Partnership for Innovation in Microfinance*; 2009, pp 286-334.

- Hellwig M. F. (2009), Systemic Risk in the Financial Sector; An Analysis of the Subprime-Mortgage Financial Crisis; De Economist; Open Access; June 2009, Volume 157, Issue 2, pp 129-207.
- Howells P. and Bain K. (1998), The Economics of Money, Banking and Finance. Longman United Kingdom.
- Jeffrey P. (2000), Regulation and Supervision of Credit Unions, Safe Money, Edited by G. Westley and B. Branch, IDB, 2000.
- Johnson G. and Scholes K. (2007), Exploring corporate strategy; Dorling Kindersley (India) P Source: PVt ltd, New Dehli.
- Juvenalis B., (2010): The Organization, Management and Finance of Housing Cooperatives in Kenya. The Global Urban Economic Dialogue Series, First published in Nairobi in 2010 by UN-HABITAT, United Nations Human Settlements Programme 2010, HS/153/10E, ISBN (Series): 978-92-1-132027-5 ISBN (Volume) 978-92-1-132268-2, pp. 65-66
- Kenneth D. and Ramirez G. G. (2008), Information, Credit Risk, Lender Specialization and Loan Pricing, Evidence from the DIP Financing Market, Journal of Financial Service Research, August 2008, Volume 34, Issue 1, pp.35-59.
- Kose J., Anthony W. L., and Manju P. (2003), The Journal of Business, Vol. 76, No. 3 (July 2003), pp. 371-409.
- Kothari C. R. (2006), Research Methodology, Methods and Techniques, New Delhi New Age International P Limited.
- KUSCCO (2010), SACCO Star Issue, 11, (March 2010), Deposit Taking SACCOs Brace For Change as Draft Regulation are Unveiled; *The Leading SACCO Magazine in Africa*, Issue 11, pp.4-20.
- KUSCCO (2006), SACCO star No. 59, Nairobi.

- Leung W.K. and Lai K.K. (2001), Improving the quality of the credit authorization Process: A quantitative approach, *International Journal of Service Industry Management*, Vol. 12 Iss: 4, pp.328 – 341.
- Malimba M. P. and Ganesan P. (2009), Repayment behaviour in credit and Savings Cooperative societies, Empirical and theoretical evidence from rural Rwanda, *International Journal of Social Economics*, Vol. 36 Iss: 5, pp.608 – 625.
- Mamiro R. G. (2002), Factors determining interest rate spread in Tanzania. An empirical analysis.
- Manyara, M. K. (2003), *The Development of Cooperative Law and Policy in Kenya*, Nairobi, Oscan Print.
- Michael P. and Mark K., (2008); Institutional Capital as Bulwark for a Rainy Day, (Wrote in the Harvard Business Review): SACCO CAP NEWS, *Newsletter of WOCCU/FSD SACCO CAP Project* Issue 3, July 2008. Pg 1-4
- Microfinance Gateway (2009). What is Microfinance? http://www.micro_finance_gateway.org/Section/faq [Retrieved 16 April, 2009]
- Mohane H. Coetzee G. and Grant W. (2002), The Effects of the Interest Rate Ceilings on the Micro Lending Market in South Africa, *Working paper: 2002-02*.
- Mudibo, E.K. (2005), “Highlights of the SACCO movement and current trends in the Kenya Union of Savings and Credit Co-operatives (KUSCCO)”, KUSCCO, Nairobi.
- Mugenda O. and Mugenda A.G. (2003), *Research Methods: Quantitative and Qualitative Approaches*. Acts Press.
- Mwaisekwa K (2004), *Credit risk management in Tanzania postal Bank*, University of Dares Salaam, Dar es salaam.
- Mwaura D.N. (2005), *Factors affecting the performance of Savings and Credit Cooperative Societies in Kenya*.

- Nara H. D. (2012), Project Coordinator / Rural Finance Sector Specialist, Rural Finance Sector Development Cluster, Program II, Asian Development Bank / Ministry of Finance, Kathmandu, Nepal, (February 2012).
- Ndazi M. B (2001), Trade credit and performance of business enterprise in Tanzania University of Dar es salaam, Dar es salaam.
- Oldfield G. and Santomero A. (1997), The Place of Risk Management in Financial Institution, Center for Financial Institutions Working Paper 95-05, Wharton School Center for Financial Institution of Pennsylvania.
- Oyewole M. O. (2010), Housing development finance through cooperative Societies, The case of Ogbomoso, Nigeria; *International Journal of Housing Markets and Analysis*; Volume 3, Issue 3, 2010.
- Pearce J. A and Robonson R. B. (2007), Strategic Management McGraw, Hill publishers, New York.
- Rashid T. (2005), Assessment of credit risk management in commercial banks in Tanzania, University of Dar es salaam.
- Republic of Kenya (2004a), *The Cooperative Societies (Amendment) Act, 2004*, Nairobi, Government Printer.
- Republic of Kenya (2004b), *The Cooperative Societies Rules, 2004*, Nairobi, Government Printer.
- Republic of Kenya (2008), *The SACCO Societies Act, 2008*, Nairobi, Government Printer.
- Richardson D. (2000), Model Credit Unions in the Twenty First Century, in Safe Money, Edited by G. Westley and B. Branch, IDB, 2000.
- Robert J., Shillier, John Y. C. and Kermit L. S., (1983), Forward Rates and Future Policy, Interpreting the Term Structure of Interest Rates, *Brookings Papers on Economic Activity*, pp. 173-217.

- Robin K. and Hugh W. (2009), From demutualisation to meltdown, A tale of Two wannabe banks, critical perspectives on international business, Vol. 5 Iss: 1/2, pp.120-140.
- Samules, Michael (2011), “The Calculation of Portfolio Unexpected Loss in Credit and Operational Risk”, Journal of Risk Management in Financial Institutions, Vol. 5, No. 1, (December 2011), pp. 76-85.
- SASRA (2009), The SACCO Societies Regulatory Authority, SASRA Regulatory Framework, Semi - Autonomous Government Agency under the Ministry of Cooperative, Development and Marketing, SACCO Societies Act 2008, Inaugurated in 2009.
- Saunders A, (1996), Financial Institutions Management, A modern perspective. Irwin Illinois.
- Shango M (2000), Determinants of commercial banks profitability in transition to a Private Economy. Tanzania experience, University of Dar es Salaam.
- Sinkey, J. F. (1989). Commercial bank financial management in the financial service industry 3rd edition, MacMilan, New York, 495-496.
- Steel, W. F. and Andah, D. O. (2003). Rural and microfinance regulation in Ghana: Implications for development and performance of the industry. *World Bank Working Paper Series* No.49.www.worldbank.org/afr/wps/wp49.pdf [Retrieved, October 30, 2008]
- Ursula T, Bugera V, Revenko A, and Uryasev S (2003), Regulatory impact on credit Portfolio Management. University of Florida. USA.
- Violi R. (2011), Systemic Risk in Structured Finance, Lessons from the Ongoing Financial Crisis, in William Sun, Céline Louche, Roland Pérez (ed.) Finance and Sustainability: Towards a New Paradigm? A Post-Crisis Agenda (Critical Studies On Corporate Responsibility, Governance and Sustainability, Volume 2), Emerald Group Publishing Limited, pp.349-374.

- Von-Pischke, J.D (1991), Finance at the Frontier, Debt Capacity and the Role of Credit in the Private Economy, EDI Development Studies, Washington, D. C.: The World Bank. p.25
- Vorgelegt V., Uwe W., Aus E. and Heidelberg (2002), Credit Risk Evaluation Model is a trademark of the Center for Risk & Evaluation GmbH and Co. KG, (July 2002).
- Voordeckers W. and Steijvers T. (2006), Business Collateral and Personal Commitments in SME lending, *Journal of Banking and finance*, Vol. 30 No. 11 pp. 3067-3086.
- Wanyama F. O. (2009), Surviving Liberation: The Cooperative Movement in Kenya; Coop Africa Working Paper No.10, pp 5-6.
- Wilson, Thomas C. (1997a), Portfolio credit risk (I), Risk 9, pp. 111-117.
- Wilson, Thomas C. (1997b), Portfolio credit risk (II), Risk 9, pp. 56-62.
- Wilson, Thomas C. (1997c), Measuring and managing credit portfolio risk – Part 1, Modeling Systemic default risk. *The Journal of Lending and Credit Risk Management*, reprint.
- Wilson, Thomas C. (1997d), Measuring and managing credit portfolio risk – Part 1, Portfolio loss distributions. *The Journal of Lending and Credit Risk Management*, reprint.
- Wilson, Thomas C. (1998), Portfolio credit risk. FRBNY Economic Policy Review, reprint.
- Wozabal, D. and Hochreiter, R. (2012), A Coupled Markov Chain Approach to Credit Risk Modeling. *Journal of Economic Dynamics and Control*, 36 (3). pp.403-415.

APPENDICES

Appendix I: Questionnaire for Participants

Dear sir/ madam

This questionnaire is being administered to collect data on the topic “effects of credit risk management techniques on loan performance; A Case of Moi University Co-operative Saving and Credit Society, Eldoret”. This is to request you to participate in this research and provide honest information on the questions asked. Your responses are important and the information you give will be strictly confidential. Please complete this questionnaire in accordance with the instructions given. Thank you very much for your cooperation.

Kindly read the questions and answer appropriately by ticking (√) in the boxes provided.

SECTION A: GENERAL INFORMATION

1. Gender? (a) Male (b) Female
2. Age 18-25 Years 26-35 Years 36-45 Years
 46-55 Years 56-65 Years Over 65 Years
3. Position / Title held in Moi University SACCO
 Top management (Board of Director)
 Senior Management
 Middle Level Management
 Clerical Officer
 SACCO Member
4. For how long have you worked / been a Member with Moi University SACCO?
 1-8 Years 9-16 Years 17-24 Years Above 25 Years

5. Highest level of education attained

No formal Education [] Primary [] Secondary []
 Diploma [] Degree (s) []

6. How does the SACCO make credit investment decisions?

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	5	4	3	2	1
In an Annual General Meeting					
By Board of Directors					
By Credit Board of Directors					
By Financial Investment Managers					
By Credit Managers					
Through Consultants					

7. Are there any methods that are used in assessing credit risk management techniques?

Yes [] No []

8. What loan products does your SACCO offer?

- a)
- b)
- c)
- d)
- e)

SECTION B: IDENTIFICATION OF CREDIT RISK MANAGEMENT TECHNIQUES

9. Lack of credit risk analysis contributes to poor performance in loan lending by

SACCO Societies:

Strongly Agree [] Agree [] Undecided [] Disagreed [] Strongly disagreed []

10. Who has the authority to establish credit risk management in policy or procedures of your organization?

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	5	4	3	2	1
Chief executive officer(CEO)					
Chief financial officer(CFO)					
Board / committee					
Executive management committee					
Internal auditor					
Staff					

11. Does your organization have a documented credit risk management guideline or policy?

Yes [] No []

12. Does the guideline / Policy support the goals and objectives of credit risk management?

Yes [] No []

13. Do you understand the credit risk management guideline or policy you have?

Yes [] No []

14. How often does your organization change its guidelines or policies to manage risks?

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	5	4	3	2	1
Once per year					
Once every two years					
Once in more than two years					
Never					

15. Does your organization have a policy to support the development of credit risk management in future? Yes [] No []

16. Does your organization offer training for employees? Yes [] No []

17. How often does your organization provide credit risk management training courses?

	Strongly Agree	Agree	Undecided	Disag ree	Strongly Disagree
	5	4	3	2	1
Never					
1 times per year					
2 times per year					
More than 2 times per year					

18. Does your credit risk management established procedures for keeping up-to-date and well informed with changes in regulations? Yes [] No []

19. What are the challenges you face in implementing credit risk management?

20. What are the processes used for the Management of credit risk?

21. When selecting loan clients, is information from the following sources used?

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	5	4	3	2	1
Financial statements					
Credit histories					
Village/community leaders					
Friends/relatives					
Employers/business people					
Credit group selection of eligible members					
Other (please specify)					

SECTION C: IMPACT OF FLUCTUATION IN INTEREST RATES ON LOAN

PERFORMANCE:

22. Rate the following causes of non-performing loans?

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	5	4	3	2	1
High interest rate					
Short Loan Repayment period					
Long Loan Repayment period					
Poor regulation					
Exchange rate fluctuation					
Weak credit risk Management					
Lack of credit Reference Bureau					
Poor lending policies					
Customer over committed income					
Poor Loan appraisal					
Undervalued Collateral Securitization					

23. Give your view on the following rates of interest on loans?

Interest rate enhances		Strongly				Strongly
		Agree	Agree	Undecided	Disagree	Disagree
		5	4	3	2	1
A	Increased good returns					
B	Increased fund level					

24. When do you classify a loan as delinquent (Defaulted)?

.....

.....

25. Are there any penalties for early payment or prepayment of loans?

Yes [] No []

26. What are the causes of loan default in your SACCO?

- (i).....
- (ii).....
- (iii).....
- (iv).....

27. What is your overall level of loan default as a percentage of total portfolios?

.....

SECTION D: EFFECTS OF REPAYMENT PERIOD ON LOAN**PERFORMANCE OF SACCOs:**

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	5	4	3	2	1
Credit follow-ups contribute to poor performance in loan lending by SACCO Societies.					
Lending without proper procedures contribute to poor performance in loan lending by SACCOs.					
Supplying liquidity to constrained firm is very risk as it reduces the probability of payments and increases moral hazard problems.					
SACCOs can adopt various forms of credit risk assessment in order to assess effects of loan performance.					

28. Is there a waiting period between repayment and the disbursement of a subsequent loan?

Yes [] No []

SECTION E: INFLUENCE COLLATERAL SECURITIZATION LOAN

PERFORMANCE:

29. Is there any training prior to lending? Yes [] Duration.....

No []

30. Do SACCO loan appraisals require collateral or guarantors? Yes [] No []

31. If yes, what collateral securitization or guarantors does the SACCO accept? (Used table below)

Collateral and Securitization in loan performance		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
		5	4	3	2	1
A	Vehicles					
B	Land					
C	Animals					
D	Household goods/furniture					
E	Personal guarantees					
F	Group guarantees					
G	Shares					

32. How much is a client required to save before a loan is awarded?

33. Are savings / deposits used for onward lending? Yes [] No []

34. Does the SACCO have Credit risk management techniques on loan performance assessment? Yes [] No []

35. If yes, what type of Credit risk management techniques are used on loan performance assessment?

.....
.....
.....

36. If no, explain how Credit risk management techniques on loan performance are assessed?.....

.....
.....

37. Are the Credit risk management techniques adopted useful on loan appraisal assessment?

Yes [] No []

38. If no, how does the SACCO Credit risk management technique on loan performance and appraisal carried out effectively?

.....
.....
.....
.....

39. Indicate your view on Credit risk management techniques on loan performances given below (Used table).

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	5	4	3	2	1
Are the Credit risk management techniques on loan performance has much Importance as far as SACCO performance is concern.					
Does strategic assessment on credit risk management techniques on loan performance improves the SACCO success and liquidity?					

40. Does the SACCO engage in the following ways in the determination of good portfolio credit risk management techniques (CRMT)?

S/NO	PORTFOLIO CRMT	YES	NO
a)	Use of SACCO staff expertise		
b)	Outsourcing to consultants		
c)	Information signal from the market environment		
d)	Where there is quick return impulse		

41. Rate the existence of good Loan performances portfolio in the SACCO using the table below.

Loan performance Portfolio	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	5	4	3	2	1
When there is no liquidity problems					
High returns at the year end					
Reduced loan default					
Enough cash flow in circulation					
Minimal customer complaints					

Thank you for taking your time to complete the questionnaire.

Appendix II: Data Tables

Notes: Tables details for Five Years Trend Period

Total figures / cost of each portfolio, Size of the SACCO and performance should be extracted from the Financial Statements.

	Details	2008	2009	2010	2011	2012
1	Total No. of Staff					
2	No. of Loan Officers					
3	No. of borrowers					
4	No. of active members					
5	Total No. of loan outstanding					
6	Total No. of loan disbursed					
7	Portfolio at risk					
8	Total Repayment rate amount					
9	Total Loan					
10	No. of Savers					
11	Profit / Loss / Dividend					
12	Shareholders' Equity					
13	Liabilities					
14	Retained earnings					

Thank you for taking your time to complete the questionnaire.

Appendix III: Results on Data Tables

Notes: Tables details for Five Years Trend Period


The total figures / cost of each portfolio, Size of the SACCO and performance were extracted from the Financial Statements.

Details	2008	2009	2010	2011	2012
No. of Staff	27	24	26	23	35
No. of Loan Officers	3	3	4	4	4
No. of active members	3350	3380	3654	2734	3054
Total Loan outstanding	670,363,793	696,579,128	819,811,267	638,776,375	564,785,054
Total loan disbursed	357,694,250	383,909,685	204,604,400	181,034,892	73,991,321
Portfolio at risk		65,314,730	104,702,122	37,112,119	38,122,147
Portfolio at risk (%)		9%	13%	6%	7%
Total	75,630,350	58,583,700	61,534,430	67,884,480	62,621,811
Repayment					
Total Loan	670,363,793	696,579,128	819,811,267	638,776,375	564,785,054
No. of Savers	3350	3380	3654	3036	3250
Profit / Loss / Dividend	53,077,610	41,601,277	44,124,380	31,373,750	30,802,000
Shareholders' Equity	13,394,950	81,143,370	85,996,478	112,638,543	128,822,126
Members	604,543,747	664,736,526	720,852,830	716,882,236	802,968,288
Deposit					
Liabilities	200,190,644	236,496,357	333,199,479	429,844,197	369,207,759
Retained earnings	2,360,973	2,425,891	2,569,038	2,607,551	2,980,773

Thank you for taking your time to complete the questionnaire.

Appendix IV: Research Authorization

REPUBLIC OF KENYA



NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telephone: 254-020-2213471,2241349
254-020-310571,2213123, 2219420
Fax: 254-020-318245,318249
when replying please quote
secretary@ncst.go.ke

P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref: _____ Date: _____

NCST/RCD/14/013/148 **21st February, 2013**

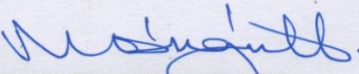
David Kipngetch Kirui
Chepkoilel University College
Eldoret.

RE: RESEARCH AUTHORIZATION

Following your application dated *8th February, 2013* for authority to carry out research on "*Effects of Credit Risk Management Techniques on Loan Performance: A case of Moi University SACCO, Eldoret,*" I am pleased to inform you that you have been authorized to undertake research in **Uasin Gishu County** for a period ending **31st May, 2013**.

You are advised to report to **the Vice Chancellor, Moi University** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.



DR M.K. RUGUTT, PhD, HSC.
DEPUTY COUNCIL SECRETARY

Copy to:

The Vice Chancellor
Moi University.

"The National Council for Science and Technology is Committed to the Promotion of Science and Technology for National Development".

Appendix V: Research Permit

PAGE 2 PAGE 3

Research Permit No. NCST/RCD/14/013/148

THIS IS TO CERTIFY THAT: **Date of issue** **21st February, 2013**

Prof./Dr./Mr./Mrs./Miss/Institution **Fee received** **KSH. 1,000**

David Kipngetich Kirui

of (Address) Chepkoilel University College

Eldoret.

has been permitted to conduct research in


Location

District

Uasin Gishu County

on the topic: Effects of Credit Risk Management Techniques on Loan Performance: A case of Moi University SACCO, Eldoret.

for a period ending: 31st May 2013



Applicant's Signature

Secretary

National Council for Science & Technology

CONDITIONS

1. You must report to the District Commissioner and the District Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two (2)/ four (4) bound copies of your final report for Kenyans and non-Kenyans respectively.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.

REPUBLIC OF KENYA

RESEARCH CLEARANCE PERMIT

GPK60553mt10/2011 (CONDITIONS – see back page)