

# **INNOVATIVE CREDIT MANAGEMENT PRACTICES AS A CATALYST FOR FINANCIAL PERFORMANCE: EVIDENCE FROM SAVINGS AND CREDIT COOPERATIVE SOCIETIES IN NYERI CENTRAL SUB COUNTY, KENYA**

**Fredrick Gitahi Gichuki.**

PhD Candidate, Doctoral School of Entrepreneurship and Business, Faculty of Finance and Accountancy, Budapest Business School, Hungary.

Part Time Lecturer, Karatina University, Kenya.

County Credit Officer, Youth Enterprise Development Fund, Nyandarua County, Kenya.

©2023

International Academic Journal of Economics and Finance (IAJEF) | ISSN 2518-2366

**Received:** 13<sup>th</sup> April 2023

**Published:** 21<sup>st</sup> April 2023

Full Length Research

**Available Online at:** [https://iajournals.org/articles/iajef\\_v3\\_i9\\_1\\_30.pdf](https://iajournals.org/articles/iajef_v3_i9_1_30.pdf)

**Citation:** Gichuki, F. G. (2023) Innovative credit management practices as a catalyst for financial performance: evidence from savings and credit cooperative societies in Nyeri Central Sub County, Kenya. *International Academic Journal of Economics and Finance*, 3(9), 1-30.

## **ABSTRACT**

The World Council of Credit Unions recently selected the Kenyan Savings and Credit Cooperative Societies' sub sector as the fastest growing in the world. The growing popularity and landmark growth of the sub sector is driven by the ability of the entities to meet clients credit needs on better and easier terms than other players in the financial sector. Scholars are in consensus that credit management is the foundation for stability and growth of modern-day enterprises. The research therefore sought to establish the influence of innovative credit management practices on the financial performance of the Savings and Credit Cooperative Societies. Specifically, the study aimed at establishing the effect of collection policy, credit risk controls, delinquency management and credit appraisals on performance of Savings and Credit Cooperative Societies in Nyeri Central Sub County of Kenya. The study was particularly interested with the financial aspects of firm performance and specifically exploited profitability ratio aspects measured through Return on Investment. The study also considered Credit Risk Exposure measures namely Portfolio at Risk and Write off Ratio. The study was anchored on the Information Asymmetry Theory, Agency theory as well as the transaction Cost Theory as the key guiding theoretical models. The study adopted a census study of all the 15 active Savings and Credit Cooperative Societies in Nyeri Central Sub County as gathered from the Directorate of Co-operative Development of Nyeri County Government. The research targeted Chief Executive Officers and Credit Managers of all the entities together with the executive

board which comprises of 4 members. This translated to a total of 90 respondents. The study used both primary and secondary data pieces. Questionnaires were the choice tool for collecting primary data. The questionnaire was dropped in person and then picked at a later date. The questionnaire was tested for validity and reliability using a pilot study, seeking expert opinion and Cronbach's Alpha Reliability Analysis. Secondary data was gathered from the financial reports of the entities. Financial performance was considered for 5 financial years 2012-2016 for better understanding of performance over time. Secondary resources from the SACCO societies Regulatory Authority publications and reports were also useful. The study used the Statistical Package for Social Scientists to generate both descriptive and inferential statistics. Multiple linear regression analysis was used to explain the magnitude of effect of each of the variables under study on performance. Going by the results of the analysis, as explained by R Square which is the Coefficient of Determination, 81.50 % of the variation in the Financial Performance (the dependent variable) was explained by variability in the independent variables. From the results all the independent variables coefficients were found to be statistically significantly different from 0 (zero). As such, it was concluded that Collections Policy, Credit Risk Control, Credit Appraisal and Delinquency Management were all statistically significant predictors of financial performance. Pearson Correlation analysis results indicated a statistically significant positive relationship between all

the independent variables; Collections Policy, Credit Risk Control, Credit Appraisal and Delinquency Management and financial performance.

**Key Words:** Credit Management, Credit Appraisal, Collection Policy, Credit Risk Control, Delinquency Management, Financial Performance.

## **INTRODUCTION**

Van Deventer, Imai, and Mesler (2013) observe that prudent practise of credit management guarantees that clients pay for the products supplied or the services rendered. The instrumental role of credit management is pinned on the importance of cash flow. Regardless of business viability, lack the cash to continue with the enterprise may mean the road to bankruptcy or take-over by other entities that understand how to prudently deal with cash. The biggest risk for Savings and Credit Cooperative Societies is lending money and not getting it back (Altman, 2002). This is made serious that SACCOs cover a clientele of people who have previously been under financial exclusion, lacking the required collateral or tough requirements to obtain credit from traditional sources like banks. In the noble role of driving financial inclusion therefore, it is prudent for SACCOs to ensure that credit administration is guided by policies and regulations that tend to minimise the credit risks involved. Only by so doing will the SACCOs survive in an environment marked with stiff competition and unpredictable economic variables.

Gatuhu (2013) argues that timely identification of potential credit default is an area that needs to be emphasized by financial institutions that aim to cover the financial excluded clientele. This is particularly because high default rates lead to decreased cash flows, poor liquidity status and ultimately financial distress. SACCOs have for instance, introduced the group lending framework as a way of striking a balance on the need to give lending services to the financially excluded and the need to safeguard shareholder wealth through risk distribution. In the group lending system, the borrowers get funding as a group rather than as individuals. The members of the group effectively become co-guarantors and are expected to hold themselves, collectively and individually responsible in case of any default. The group lending system or strategy has been proved as an effective way of reducing default, especially for SACCOs and MFIs whose credit terms and conditions are oversimplified.

Saunders, Cornett, and McGraw (2006) describe Credit management as a function that is implemented in a business entity to improve as well as control credit policies. The key outputs sought are increased revenues, lowered risks, increased level of collections, credit costs reduction, and development of competitive credit terms. Brealey, Myers, Allen, and Mohanty (2012) posit that Credit Management involves strategies, methods, policies and structures adopted by a firm to ensure optimal and effective administration of credit. (Altman, 2002) observes that in today's environment of intense competitive pressures, volatile economic conditions, rising bankruptcies and defaults, not forgetting the increasing levels of consumer and commercial debt, an organization's ability to effectively monitor and manage its credit risk could mean the difference between its success and collapse. As a financial management function, credit management involves credit analysis, credit

rating, credit classification and credit reporting. The processes ensure that credit risks are effectively minimized through an informed and well-structured administration of credit.

According to Allen and Saunders (2002), credit risk essentially covers risks due to promotion or demotion or rather, the variance of a borrower's credit worthiness. SACCOs are devoting a considerable amount of time and thought to defining and managing credit risk that apparently hold the make or break point for modern day enterprises. Cossin and Pirotte (2001) asserts that credit risk management is a continuous cycle that forms the very heart of an organization's ability to stay competitive. The concept ideally involves identifying and correctly pricing risk in the customer acquisition process, measuring risk throughout the customer lifecycle, determining capital allocations and regulatory requirements and finally a timely and effective collection framework. According to Fight (2004) When the risk has been identified, investment decisions can be made and the risk versus return trade off considered from a better position. Credit risk can be reduced by monitoring the behavior of clients who intend to apply for credit in the business (Bagchi, 2004).

Credit management as a corporate function therefore aims to improve and control credit policies in an attempt to raise revenues levels while controlling for the risks involved. Altman (2002) asserts that credit management is a function performed within a company to improve and control credit policies that will lead to increased revenues and lower risk including increasing collections, reducing credit costs, extending more credit to creditworthy customers, and developing competitive credit terms. Mukherjee (2008) describes credit appraisal as the process of subjecting potential borrowers to thorough screening to ensure their willingness, commitment and ability to repay the loan advanced to them promptly. The objective of credit appraisal is to ascertain the repayment capacity of the borrower that then guides the decisions whether to accept or reject loan applications. The 5 Cs model as advanced by Bhattacharya (2011) has found wide application in SACCOs in their quest to determine the credit worthiness of potential borrowers. The method evaluates the SACCOs loan clients using both qualitative and quantitative parameters. The 5 Cs Model evaluates five characteristics of the borrower as it endeavors to measure the chance of default. The five Cs of credit are Character, Capacity, Capital, Collateral and Conditions.

Abeyratne (2001) asserts that character is used in this context to refer to a borrower's reputation as driven by his or her integrity and trustworthiness. The variable is instrumental in ascertaining the willingness to repay as well as the self-drive to run a successful enterprise through prudent management of the loan advanced. Capacity evaluates a client's ability to repay a loan by comparing income against recurring debts. As such, the lender is interested in ascertaining whether the business and household cash flows are adequate enough to cover loan repayments as scheduled. According to Chen, Guo, and Huang (2009), Capital is used to refer business and household assets and liabilities. The lender will consider the borrower's injection of resources in financing a potential investment. It is worth noting that a large contribution by the borrower will lessen the chance of default. Collateral refers to access to an asset that the applicant is willing to cede in case of non-payment, or a guarantee by a respected person to repay a loan in default. Collateral may take various forms such as property, assets, or personal guarantees and is a useful tool to secure the loan. Lastly, conditions are used in reference to terms agreed upon based on careful analysis of environmental conditions such as regulations, level of competition, demand for products and the economic

situation. Conditions include terms such as the interest rate and amount of principal which will significantly guide the lender's desire to finance the borrower (Mukherjee, 2008).

Credit Risk Controls, according to Hu (2009) involves activities that guarantee loan administration to as many worthy clients as possible and minimising advances to less credit worthy in equal measure. The concept involves a number of elements namely; Loan product design, Credit committees, Client orientation, Staff incentives and Loan rescheduling. SACCOs can mitigate a significant portion of default risk through loan products designed to meet the diverse needs of clients. The loan attributes of significance here include loan size, interest rate and fees, repayment schedule, collateral requirements. The constitution of Credit Committees mandated to make decisions concerning loans is an essential control mechanism in reducing credit risk. Gordy (2000) observes that if power to decide who receives loans, which loans will be written off or rescheduled, and under what conditions is concentrated on one individual, this power can easily be abused and covered up. This condition would potentially expose the organisation to credit risks emanating from power abuses. As such, credit committees ensure distribution of decision making power to avoid unnecessary exposure to abuse that would lead a firm to detriment.

The credit committee is mandated to not only approve loans, but also to monitor the loan progress and to be participate in delinquency management should borrowers have repayment problems. Delinquency is ideally the failure to settle loan obligations as they fall due or as agreed. In most SACCOs, missing two successive payments will normally make the account to be rendered delinquent. Delinquency management methods applied by SACCOs involve cultivating an institutional culture that embraces zero tolerance of arrears and immediate follow up on all late payments. SACCOs can also remind clients who have had recent delinquency problems that their repayment day is approaching to ensure timely settlement (Gatuhu, 2013). Client Orientation involves instilling and communicating the concept of zero tolerance to delinquency or delayed payments to new loan clients. Staff incentives also play a central role in discouraging delinquency. The loan should be designed in a manner that discourages default, for instance imposing penalties based on the duration the dues remain unsettled.

According to Gisemba (2010), delinquency occurs when a client fails to repay a loan instalment according to the agreed repayment schedule. A repayment schedule should be worked out and agreed upon by both the lender and the borrower upon loan advance to clients. Once a situation arises where payments become past due, the loan is said to be turning delinquent. The borrowers who have not been able to fulfil the repayment terms are called delinquent borrowers. Kibui and Moronge (2014) observes that failure to control loan delinquency, which often leads to default, is probably the largest single down fall of SACCOs. There are their major types of delinquents, willing but unable to pay, Unwilling but able to pay and willing and able to pay but lacking self-discipline. Staff should also be equipped with good working lending frameworks to ensure effective management of loan portfolio e.g., Credit Reference Bureau (CRB) information sharing. Staff should also be well motivated to carry out their credit management duties diligently to ensure superior loan portfolio quality. A good collection policy is an instrument for organisations to achieve quality loan portfolio.

Due to diverse character of clients, loan will not always be repaid at the same time. Some clients are fast payers, others slow payers while others are non-payers. As such, a prudent collections policy ensures that loan agreements are adhered to. The collection effort should, therefore aim at fast-tracking collections from slow payers and reducing losses associated with bad debts. Training and development programmes are at the core of the organisation's credit management performance. The staff need to have the relevant understanding of credit management as a profession and also need to be developed regularly to keep pace with dynamics in the business world. There needs to be regular training needs assessment programmes by SACCOs to evaluate the knowledge gaps to be filled through training and development programmes (Mays, 2001).

### **Statement of the Problem**

In spite of the high ranking of the Kenyan SACCO sub sector in global ratings such as the World Council of Credit Unions (WOCCU), enormous challenges continue to be encountered in the sector with a few SACCOs forced to shut doors (Gamba & Komo, 2014). The role of prudent credit management practices on the financial stability and ultimate survival of SACCO Societies cannot be under estimated. Wanyama (2009) observes that Credit Administration is at the Core of the SACCOs mandate and therefore SACCOs that wish to survive must create structures and policies that balance the need to ensure financial inclusion of current and potential members on matters credit against the risks involved.

Mugwe (2011) in a review of a joint report by the Central Bank of Kenya, the SACCOs Societies Regulatory Authority (SASRA), Capital Markets Authority (CMA), Insurance Regulatory Authority (IRA) and the Retirements Benefits Authority (RBA) identifies Credit Risk as one of the most serious drawbacks facing the Kenyan SACCO sector. It is ironical that of the 15 SACCO Societies identified within the Sub County, only 4 of them are licensed to operate by the SACCOs Societies Regulatory Authority. The licensed SACCOs are 2NK SACCO, Biashara SACCO, New Forties SACCO, and Taifa SACCO. This condition leaves 10 SACCOs which represents 67 % of the SACCOs not SASRA Regulated. It was critical for the study at hand to establish the credit management standards of the unregulated SACCOs compared to the regulated SACCOs and report if Credit Management standards used significantly relate to the SACCOs financial Performance.

Poudel (2012) examined the impact of credit risk management on financial performance of commercial banks in Nepal. The study established that all these parameters had an inverse impact on banks' financial performance with default rate being the most significant predictor of bank financial performance. Kolapo, Ayeni, and Oke (2012) conducted a study on Credit risk and commercial banks' performance in Nigeria using a panel model approach. The study established that the effect of credit risk on bank performance measured by the Return on Assets of banks is cross-sectional invariant. This implies that the impact is similar across banks in Nigeria.

Njeru (2012) considered the factors affecting loan delinquency in microfinance institutions in Kenya. The results indicated that microfinance institutions and self-help groups' specific factors and external factors significantly affect loan delinquency performance among microfinance institutions in Kenya. From the above review, the study has unveiled methodological gaps,

contextual gaps as well as empirical gaps that would be filled by the study. The researcher did not also come across any research done on this area in Nyeri Central Sub County despite the intensive Cooperative movement activities in the Sub County. A focus on Nyeri central sub county will help fill this gap.

### **Objectives of the Study**

The general objective of this study was to determine the influence of innovative credit management practices on performance of Savings and Credit Cooperative Organizations in Nyeri Central Sub County of Kenya.

### **Specific Objectives**

- i) To determine the effect of collection policy on financial performance of Savings and Credit Cooperative Societies.
- ii) To establish the effect of credit risk control on financial performance of Savings and Credit Cooperative Societies.
- iii) To determine the relationship between credit appraisal and financial performance of Savings and Credit Cooperative Societies.
- iv) To establish the implication of delinquency management on the financial performance of Savings and Credit Cooperative Societies

### **Hypothesis of the Study**

**H<sub>01</sub>:** Collection Policy does not significantly affect the financial performance of Savings and Credit Cooperative Societies.

**H<sub>02</sub>:** There is no significant effect of Credit Risk Control on financial performance of Savings and Credit Cooperative Societies.

**H<sub>03</sub>:** There is no significant relationship between Credit Appraisal and financial performance of Savings and Credit Cooperative Societies.

**H<sub>04</sub>:** Delinquency Management does not significantly influence the financial performance of Savings and Credit Cooperative Societies

## **LITERATURE REVIEW**

This part covers the theoretical literature review as well as the empirical literature review.

### **Theoretical Review**

The study was anchored on a number of theories namely Agency Theory, Information Asymmetry Theory, Structural theory of Credit Management and the Transaction Cost Theory.

#### **Agency Theory**

This theory was particularly useful in the assessment of the effect of Credit Risk Control and Credit Appraisal objectives of the study. The model ideally illuminates the relationships that exist between

the principal(s) and agent(s) in a given entrepreneurial undertaking or investment. There are many challenges and conflicts that emerge from the agency relationships and as such the agency theory is about offering working solutions to these principal-agent problems. With regard to SACCOS, relationships do exist between shareholders as the Principals (owners) and company executives and managers as the agents (Miller & Sardais, 2011). The shareholders delegate management of their SACCOS to their authority and responsibility to managers.

It was therefore clear that in the context of SACCOS, agency relationships do exist between boards, management and owners and agency problems must be addressed. The agency problems arise where employees or managers fail on their obligation to act responsibly in safeguarding shareholders' wealth. Sometimes the agents may act selfishly without minding owners best interest (Ballwieser, 2012). The agency theory presents the management as self-interested, individualistic, opportunistic and bounded in rationality. The agency theorists therefore recommend a system of strict corporate policy where rewards and punishments are used to check the excesses of agents. This, according to Hillier, Grinblatt, and Titman (2011) helps in preventing situations where the agents abuse their power to settle their own selfish ends. The agency theory therefore prescribes strict sanctions in marrying the often-divergent goals of management and owners.

On Credit Management, the theory was key in the assessment of Credit Appraisals and Credit Risk Control objectives. On credit risk controls, the agency theorists emphasize the central role of credit committees to ensure power to make decisions on who gets the loan, how much he or she gets and the repayment schedules is not concentrated on one individual to safeguard the system from potential abuse. With regard to credit appraisals, the agency perspective suggests a strict system of appraisal to ensure that only the clients that meet certain policy criteria can be funded. This condition is key in ensuring the system is not subject to abuse by the persons with power to decide. The agency theory therefore holds a pessimistic view of agents and prescribes tight structures, policies and procedures to avoid abuse of power to the detriment of the owners or the principal (Leland, 1998).

### **Information Asymmetry Theory**

According to Eppy (2005), Information asymmetry is used to describe a condition where the business owners or managers are more knowledgeable about the projections for, and risk hazards facing their enterprise, than do lenders. The concept ideally represents a condition in which all parties involved in a business enterprise do not know all information that would be considered relevant. With regard to SACCOS where lending is a primary object, information asymmetry would arise if the borrower has better information about the potential risks and returns that would be attached to an investment project of which the loan borrowed is aimed to finance. On the other hand, the lender lacks sufficient information concerning the borrower (Lin & Sun, 2006).

According to Frieden and Hawkins (2010) perceived information asymmetry would occasion two drawbacks for the lenders, in this case SACCOS: Moral Hazard which involves monitoring entrepreneurial behavior and Adverse Selection which would be used in content and context to mean making errors in lending decisions. SACCOS would logically find it challenging to solve these



problems under all possible circumstances. This is especially so if the amounts being loaned are relatively low where then it would not be economically feasible to devote heavy corporate resources to appraisal and monitoring. It is needful to note that the data needed to screen credit applications and to monitor the character, history and behavior of borrowers are not freely available to SACCOs. Information sharing entities such as Credit Reference Bureaus (CRB) will always charge a fee for pieces of information shared. Information asymmetry condition will be faced by SACCOs especially when assessing lending applications (Korir, 2014). In conclusion, the information needed in the appraisal and assessment of borrowers, their competence, and the prospects of their businesses is either not available, uneconomic to obtain or is difficult to interpret.

The information asymmetry condition therefore exposes the SACCOs to two types of risks, the risk of adverse selection resulting when SACCOs lend to enterprises which subsequently fail (type II error), or wrongful failure to lend to businesses with high potential for success (type I error) (Altman, 2004). As such the theory was instrumental in assessment of Credit Appraisal and Credit Risk Control as major objectives of the study. In essence, the model helped the researcher to unearth the information gaps that exist between the SACCOs and its clients and the repercussions thereto on Credit Management practices and the resulting influence on SACCOs Performance.

### **Structural Theory of Credit Management**

Merton (1974) presented structural theory of credit management often called the credit risk theory. The theorists describe credit risk as the chance of facing a financial detriment due to the drop in the creditworthiness of a counterparty in a financial operation. The theorists posit that the foremost basis of credit risk is the default risk which is in essence the risk that a counterparty will fail to honour their contractual obligations. According to Lando (2009), the Merton's Model presents two main approaches of modelling credit risk. These methods are the Structural approach and intensity-based approach which is also referred to as reduced form approach.

The former method of risk modelling tries to model explicitly the event or experience triggering default or in other words the process behind the value of the assets. On the other hand, the intensity-based approach does not attempt to model default. As such, the proponents of intensity-based approach take a credit risk event as an unpredictable and volatile event. This implies that the date of its manifestation is a totally distant stopping time with respect to an underlying filtration. In conclusion therefore, the proponents of the latter approach argue that in some situations the intensity-based approach is equivalent to the modelling of a default time in terms of its intensity process (Bielecki & Rutkowski, 2013). The theoretical model was instrumental in guiding the assessment of credit risk control, delinquency management and credit appraisal as basic objectives under the study. It was particularly key with regard to measures taken by SACCOs to understand what triggers default and measures taken to lessen the effect of default including delinquency management safeguards.

## **Transaction Cost Theory**

The transaction Cost theory was first developed by Schwartz (1974) and later the concept was developed by Tadelis and Williamson (2010). The basic premise upon which the transaction cost model is built is the proposition that suppliers may in most circumstances have an advantage over traditional lenders, and in this case SACCOs, in scrutinising the real financial condition or the credit worthiness of borrowers. Suppliers are also in a better position to monitor and force repayment of the credit than lenders. The dominances highlighted may give suppliers a cost advantage when compared with SACCOs as lenders of finance. Saussier (2000) classifies the sources of cost advantage as follows: information acquisition, controlling the buyer and salvaging value from existing assets.

Information acquisition as a source of competitive advantage can be explained by the fact that sellers have more, less costly and faster access to information about buyer since the information is obtained in the normal course of business. To be precise the frequency and amount of goods or products bought per purchase order gives suppliers an idea of the customer's financial situation (Tadelis & Williamson, 2010). The suppliers may also encounter situations like the buyer rejecting discounts for early payment which may serve to alert the supplier of weakening credit-worthiness of the buyer. Lastly, in normal circumstances, sellers usually visit customers more often than financial institutions and in this case SACCOs do and as such may get more developments concerning the borrowers than the lending institutions (Williamson, 2005).

## **Empirical Review**

This section introduces and covers literature regarding the various variables under study. It takes interest in what has already been done regarding the variables together with the findings thereof. The review was instrumental in developing a critical discussion towards establishing clearly the research gaps.

### **Credit Management Practices and Financial Performance.**

Gatuhu (2013) assessed the effect of credit management on the financial performance of microfinance institutions in Kenya. The researcher used Return on Investment or Return on Assets to measure Financial Performance. The study established strong relationship between financial performance of MFIs and client appraisal, credit risk control and collection policy. The researcher further established that client appraisal, credit risk control and collection policy significantly influence financial performance of MFIs in Kenya. Collection policy was found to have a higher effect on financial performance. Additionally, a stringent policy was found to be more effective in debt recovery than a lenient policy.

Fredrick (2012) assessed the Impact of Credit Risk Management on Financial Performance of Commercial Banks in Kenya. The study sought to establish if there exists any relationship between the credit risk management and financial performance of commercial banks in Kenya and used the CAMEL rating system as the choice approach of influencing financial performance. Financial

performance was indicated by ROE. The study established a strong impact between the CAMEL components on the financial performance of commercial banks indicated by ROE. Kolapo, Ayeni, and Oke (2012) conducted a study on Credit risk and commercial banks' performance in Nigeria using a panel model approach. The study exploited the traditional profit theory to formulate profit and used Return on Asset (ROA) to measure performance. Credit risk measures used included as a ratio of non-performing loan to loan and Advances (NPL/LA), ratio of Total loan & Advances to Total deposit (LA/TD) and the ratio of loan loss provision to classified loans (LLP/CL) as measures of credit risk. The established that the effect of credit risk on bank performance measured by the Return on Assets of banks is cross-sectional invariant. This implies that the impact is similar across banks in Nigeria.

### **Collections Policy and Financial Performance**

Gatuhu (2013) assessed the effect of credit management on the financial performance of microfinance institutions in Kenya and through a census study of all the 59 MFIs in Kenya that are members of AMFI. The study established that Collection policy had the highest implication on financial performance indicated by Return on Equity. A stringent policy was found to be more effective in debt recovery than a lenient policy. The study recommends that MFIs should enhance their collection policy by adapting a more stringent policy to a lenient policy for effective debt recovery.

Wachira (2015) undertook a study on the effect of credit policy on the financial performance of deposit taking SACCOs in Kenya. The study used a census sampling approach for the six-deposit taking Sacco in Kenya to get the data required. The study used the Market Power Theory, Efficient Structure Theory, and Behavioral Finance Theory as guiding models and established that the Collections Policy as employed by a SACCO society is a major significant determinant of financial performance. The study recommends a stringent recovery framework as opposed to a lenient one as the firm aims to reduce default risk and boost performance.

### **Credit Risk Control and Financial Performance**

Poudel (2012) examined the impact of credit risk management on financial performance of commercial banks in Nepal. This study used various parameters applicable in assessing the influence of credit risk management on banks' financial performance. Profitability was used to measure financial performance and was indicated by Return on Assets (ROA). The study considered default rate, cost per loan assets and capital adequacy ratio as parameters of interest on the credit risk control objective. The study established that all these parameters had an inverse impact on banks' financial performance with default rate being the most significant predictor of bank financial performance. The study recommended banks to design and formulate strategies that will not only minimize the exposure of the banks to credit risk but will enhance profitability.

The study by Gatuhu (2013) on the effect of credit management on the financial performance of microfinance institutions in Kenya established a strong positive relationship between credit risk control and financial performance of MFIs indicated by ROE. Kibui and Moronge (2014) conducted

a study on the effects of credit risk management on financial performance of SACCOS through a case study of Harambee SACCO. This study adopted a descriptive research approach and used credit officers of Harambee SACCO as the target respondents. The researcher employed Simple random sampling technique to select a sample of 53 respondents from the target population of 178 credit officers. The study established that Harambee SACCO used guarantors, Collateral guarantees, shareholding and insurance as risk mitigation strategies in credit risk management. The study established a strong positive relationship between credit risk management practices and the performance of SACCOs.

### **Credit Appraisal and Financial Performance**

Kiplimo and Kalio (2014) studied the Influence of Credit Risk Management Practices on Loan Performance of Microfinance Institutions in Baringo County. The study used a descriptive research design and employed a survey approach that covered all MFIs in Baringo County. The study targeted credit officers and the branch managers of the MFIs in Baringo County. The researcher used a census sampling technique and used questionnaires to collect data. The research study employed both descriptive and inferential statistics in data analysis. Descriptive statistics was presented by way of percentages and frequencies while inferential statistics used were majorly output on Pearson correlation Analysis and regression analysis. The study established a strong relationship between client appraisals and loan performance in MFIs. As such, the study revealed that an increase in client appraisal would lead to an increase in loan performance in MFIs in Baringo County. In conclusion, the researcher asserts that credit risk management practices significantly influenced loan performance of MFIs in Baringo County and prescribes adoption of a more stringent policy on credit risk management practices in MFIs. Gatuhu (2013) assessed the effect of credit management on the financial performance of microfinance institutions in Kenya and found a significant positive relationship between credit appraisal and financial performance of MFIs indicated by ROE.

Gisemba (2010) conducted a study on the relationship between credit risk management practices and financial performance of SACCOs in Kenya. The study used a sample size of the study was 41 SACCOs and employed questionnaires to obtain important information about the population. The study used both descriptive and inferential statistics for analysis derived using the Statistical Package for Social Science (SPSS). It was established from the study findings that SACCOs had adopted credit risk management practices to counter potential credit risk exposures. The study further found out that SACCOs had adopted various approaches in screening and analyzing risk as a precondition for awarding credit to clients to minimize potential loss exposures as a result of credit risk. The 5 Cs Model was extensively being used in Client Appraisal in SACCOs. In conclusion therefore, the study established a positive relationship between credit risk management practices and the financial performance of SACCOs.

Kimeu (2008) studied on credit risk management techniques adopted by Commercial Banks in Kenya to assess unsecured bank loans. The study targeted 47 Commercial Banks and adopted a census sampling approach. The study targeted Credit Officers of the various Commercial Banks. The study results indicated that a majority of the Commercial Banks in Kenya were involved in un-

secured loan services. Most of the Commercial Banks according to the study findings had both minimum and maximum loan limits. It was further established that Commercial Banks had credit management policies which guided objective credit risk appraisal. The study found out that, to reduce credit risks, the banks emphasized mostly on quality of loan portfolios achieved through careful appraisal mechanisms. As such the study identified credit appraisals as the most responsible factor for improvement or otherwise of financial performance.

### **Delinquency Management and Financial Performance**

Njeru (2012) considered the factors affecting loan delinquency in microfinance institutions in Kenya. The study was conducted on the background of high levels of loan delinquency problem leading to loan delinquency losses. The study investigated the influence of both external factors as well as internal factors on performance. The study used a target population of 49 MFIs registered by Association of Microfinance Institutions of Kenya (AMFIK) and used a census sampling design. Self-administered questionnaires were used and MFIs loan officers used as the target respondents. Multiple regression analysis was used to unveil the relationship between loan delinquency management and microfinance institutions performance. The study found out that microfinance institutions and self-help groups' specific factors and external factors significantly affect loan delinquency performance among microfinance institutions in Kenya.

Kibui and Moronge (2014) conducted a study on the effects of credit risk management on financial performance of SACCOS through a case study of Harambee SACCO. This study adopted a descriptive research approach and used credit officers of Harambee SACCO as the target respondents. The researcher employed Simple random sampling technique to select a sample of 53 respondents from the target population of 178 credit officers. The study established that Harambee SACCO applied delinquency management techniques to a large extent. The study established that Harambee SACCO had a customized computer-based reporting system which enable detection of overdue loans in the shortest possible time. In conclusion, the study results indicate a strong positive relationship between credit risk management practices and the performance of Harambee SACCO.

Kwagara (2006) conducted a study on assessment of credit risk management techniques adopted by Micro-finance institutions in Kenya. The study collected primary data by use of a questionnaire from 25 MFIs and 6 banks offering micro credit. A review of secondary sources and interviews was also done to supplement the questionnaires. There were strict delinquency management tools in use in the institutions. Majority of the institutions used as early as one late repayment to consider a loaned client as a defaulter and thus collection efforts were intensified. The study revealed that the MFIs often employed collateral attachment and sale of property attached thereto as a way of dealing with difficult-to-repay-on-time clients.

### **RESEARCH DESIGN AND METHODOLOGY**

A descriptive research design or approach was applied to the study at hand. According to Bulmberg, Cooper, and Schindler (2011), a descriptive study is concerned with finding out the what, where and how of a phenomenon. Kothari (2011) asserts that a descriptive research design involves

establishing what is happening with regard to a particular study variable. According to Mugenda and Mugenda (2003), a descriptive research design involves the discovery of relationships that exists as regards certain variables without having to alter anything in the environment. The researcher justifies the choice of this research design or approach with the fact that, the phenomena under study cannot be manipulated as it involves an already existing state of affairs. As such, the study was concerned with explaining already existing relationships, relationships that could only be described but not altered.

### **Target Population**

According to Ott and Longnecker (2015), a study population or the target population is essentially the total group of individuals or elements from which the sample might be drawn and consists of individuals or elements with the same characteristics or attributes. The study population was made up of 90 respondents drawn from all the CEOs, Credit Managers and members of the executive board in all the 15-deposit taking SACCOs Societies that are active in Nyeri Central Sub County as gathered from the Directorate of Cooperative Development of Nyeri County Government.

### **Sample Design.**

The researcher embraced a census study approach in the study at hand where all the 90 respondents drawn from all the 15 active deposits taking SACCOs in the Sub County were considered. The information on the number of SACCOs was gathered from the Directorate of Cooperative Development of Nyeri County Government. The census study was preferred by the researcher as the population of the study was considered small making it possible for the researcher to get contact with the respondents within a reasonable time. Kothari (2011), posits that where economically feasible, a census study is preferred since it generates more accurate results and reduces errors associated with sampling. The study purposively selected CEOs, Credit Managers and all the 4 Members of the Executive Board of all the 15-deposit taking SACCOs within the Sub County as the respondents of choice. It is important to note that the SACCOs Societies Act of 2008 mandates all SACCOs to have 4 executive board members which has informed our choice of 4 executive board Members per SACCO. The justification for selecting this class of respondents is the fact that they are well equipped with knowledge relevant for this study. Credit Management is a policy issue and respondents at the Corporate Policy level would be considered better equipped with relevant information. The 90 respondents targeted met and even surpassed the threshold size of thirty (30) as argued by Kothari (2011) and Mugenda and Mugenda (2003) as a rule of thumb for normal statistical approximations.

*Table 3.1: Table of target Respondents*

	Number per SACCO	TOTAL	Proportion of population
C.E.Os.	1	15	100%
Credit Managers	1	15	100%
Executive Board Members	4	60	100%
<b>TOTAL RESPONDENTS</b>	<b>6</b>	<b>90</b>	<b>100%</b>

*Source: Researcher (2016)*

### **Data Collection Instruments and Procedure.**

The research study exploited both primary and secondary data sources. Primary data was collected by way of questionnaires which were administered through the ‘drop and pick later’ method. Secondary data was collected from the annual financial statements of the companies as well as other corporate handbooks. Secondary resources from the regulatory authorities such as reports by the SACCOs Societies Regulatory Authority were also very useful. The researcher obtained an introduction letter from the university to smoothen the data collection process by providing assurance to the respondents that the information sought would be used purely for academic purposes.

### **Validity of the Research Instrument**

According to Mugenda and Mugenda (2003), Validity entails the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform. If the data collected is a true reflection of the variables, then inferences based on such data will be considered accurate and meaningful. The researcher carried out tests to ensure that the questionnaire which was the research instrument exploited would actually measure what it was intended to measure. To this end, a pilot study was conducted to pre-test the research instrument for validity. The researcher also sought Expert Opinion regarding the research instrument from useful resource persons such as the supervisor and other lecturers to ensure that the research instrument was valid. Adjustments were made based on their input, until the researcher and experts were all satisfied to the validity status of the instrument. Expert Opinion and Pilot studies are some operative methods advanced by Mugenda and Mugenda (2003) as useful methods of testing the validity of research instruments.

### **Reliability of the Research Instrument**

According to Ott and Longnecker (2015), reliability is the extent to which an experiment, test, or any measuring procedure yields the same result on repeated trials. If the research tools and procedures fail to yield consistent measurements, researchers would be unable to satisfactorily draw conclusions, formulate theories, or make claims about the generalizability of their research. The researcher also tested the extent to which the research instrument, administered more than once yielded consistent results. Kothari (2011) argues that the idea behind reliability is that any significant results must be more than a one-time instance finding and must be inherently repeatable. Establishing the internal consistency reliability status of the research instrument will be the major goal of the researcher. Specifically, researcher will use the split half correlation measures. To achieve this, the researcher employed Cronbach's Alpha Reliability Test using SPSS to test for reliability of the instrument. The Cronbach's alpha evaluates internal consistency by calculating an equivalent to the average of all possible split half correlation.

*Table 3.2: Chronbach's Alpha Reliability Statistics*

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.704	.783	26

*Source: Survey data (2016)*

From the results in table 3.2, the Cronbach's alpha coefficient for 26 items was found to be 0.783 which represented a relatively high internal consistency. According to Gliem and Gliem (2003), a Cronbach's alpha reliability coefficient of greater than 0.70 would be considered acceptable in social science research situations.

## **Data Analysis**

Upon Successful data collection, data was then cleaned and categorised in line with the objectives and hypothesis of the study. Diagnostic tests were conducted to ascertain that the data collected met the general assumptions of analytical methods such as regression analysis. These tests included test for auto correlation using the Durbin Watson test, normality test using Shapiro-Wilk normality test, Multi collinearity test using SPSS collinearity diagnostics statistics that considers Tolerance and Variation of Inflation Factors and finally the heteroskedacity test using Test Glejser. Analysis of the data sets was done using both bivariate and multivariate analysis using SPSS. Quantitative data was analysed using both descriptive statistics and inferential statistics. Besides the regression model, correlation analysis was also conducted to explain the strength of relationships unveiled between the variables under study. The researcher aimed to develop a regression model of the type given below as adopted from Kutner, Nachtsheim, and Neter (2004) and would be generated using SPSS software.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where; Y= SACCOs Performance [Return on Investment (ROI), Repayment Rate (RR) and Write off Ratio (WOR)]

**X1**= Collection Policy, **X2**= Credit Risk Control, **X3**= Credit Appraisal and **X4** = Delinquency Management

While  **$\beta_0$ ,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$  and  $\beta_4$**  are Coefficients of Determination &  **$\epsilon$**  is the error term. The multiple linear regression model was preferred for its ability to document collective effects of the interplay among factors on predicted outcomes or results.

## **RESULTS AND FINDINGS**

### **Response rate**

The researcher distributed a total of 90 questionnaires to the various Deposit taking SACCO Societies. Out of this, only 75 questionnaires were returned. As such, the response rate stood at 83.33 %. Going by conventional wisdom presented by Mugenda and Mugenda (2003), a conclusion was made that the response rate was good. The author argues that a response rate of 50% is considered adequate, 60% good and above 70% as very good.

### **Descriptive statistics.**

On financial performance, the average return on investment ratio for the SACCO Subsector in Nyeri Central Sub County stood at 15.00% as indicated by the mean. The highest ROI reported was 21% with the least being 10% therefore giving a range of 11%. The average Return on Equity ratio for the SACCO Sub sector in Nyeri Central Sub County stood at 13.86 % as indicated by the mean.



The highest ROE reported was 20.00 % with the least being 9.00 % therefore giving a range of 11%. Again, the findings are indicative of highly spread profitability performance levels for the SACCOs in Nyeri Central Subcounty. The findings are consistent with those of Gisemba (2010) who also reported wide disparities in performance of Kenyan SACCOs.

The average writes off ratio for the SACCO Sub sector in Nyeri Central Sub County stood at 17.4533% as indicated by the mean. The least write off ratio was 2% with the highest being 24% representing a range of 22 as indicated in the table. The findings are indicative of fairly good loan repayment but there is need to work towards diffusing the rate further. Though there's need for further diffusion, there is no cause for alarm yet, going by the findings. The average loan repayment rate for the SACCO Sub Sector in Nyeri Central Sub County was reported at 87.52% as indicated by the mean. The least repayment rate reported stood at 60% with the highest being 96% therefore representing a range of 36.00%. The findings are indicative of fairly good repayments in the SACCOs but there's need to device ways of pushing the repayments to 100% which is the goal of Credit Administration in the SACCOs. The findings seem to disapprove red alerts by Mugwe (2011) on extremely high default rate in the SACCO Sub sector.

Collections policy as a credit management practice was observed to a large extent by the SACCOs. It was reported that application of collections policy enhanced effective credit management in the SACCO. Respondents also highly shared with the proposition that enforcement of guarantee policies provided a chance for loan recovery in case of loan defaults. The respondents indicated that SACCOs did not have major issues with regard to formulation of collection policies. It was also shared that staff incentives are effective in improving loan recovery for delinquent cases. As such, there was therefore need to motivate staff with incentives to motivate them to deal with delinquencies and improve repayment rates in the SACCOs. A stringent policy was favoured by majority of the respondents which was consistent with earlier observations by Gatuhu (2013) and as argued by agency theorists such as Miller and Sardais (2011) who advocate for stringent policy on collections.

With regard to credit risk control, a resounding majority of the respondents agreed with the proposition that credit risk control measures were applied highly in the SACCOs. Imposition of loan size limits was observed to be a viable strategy in credit management as also shared by information asymmetry theorists such as Frieden and Hawkins (2010) who argue that loan size limits helps ease the chance of adverse selection of loan clients and reduce adverse lending risk. Respondents also largely reported that the use of credit checks on regular basis greatly enhanced credit management. The observations are in line with propositions by information asymmetry theorists who assert that since there are usually information gaps where clients are sometimes more informed on risks than lenders, there is need for regular checks to obtain new information as it becomes available (Lin and Sun, 2006).

It was reported that flexible repayment periods improved loan repayment to a great extent. The SACCOs also applied penalties for late repayments which enhanced loan repayments. The use of customer credit application forms was found to improve monitoring and credit management. It was also highly agreed that credit committee's involvement in making decisions regarding loans were

essential to a very great extent in reducing default/credit risk. This observation largely borrows from perspectives presented by the agency theorists who view agents as individualistic and opportunistic and as such recommend that loan administration should never be a prerogative of individuals since this could result to abuse (Hillier, Grinblatt, & Titman, 2011).

Results further showed that interest rates charged do affect the performance of loans and as such there was need to develop frameworks that ensure optimal loan pricing as held by transaction cost theorists (Tadelis & Williamson, 2012). Credit appraisal as a dimension of credit management was also considered in the assessment. The results indicated that SACCOs had largely embraced credit appraisal in line with the agency and information asymmetry theorists' prescriptions of thorough credit appraisal for fruitful credit management (Eppy, 2005). The SACCOs largely considered aspects of the 5cs of credit appraisal: collateral, character, capacity, conditions and capital injection in guiding the appraisal system.

The results indicated that delinquency management as a credit management practice was largely entrenched. Results showed that the SACCOs had largely established computerised loan tracking systems to aid in detection of loan dues as they arise. The SACCOs took as little as one month loan arrears to label clients as defaulters. The firms were generally effective in follow up and recovery of debt besides tracking loan dues. The firms further kept information on hard-core defaulters to avoid future mistakes in lending which is consistent with prescriptions of information asymmetry theorists such as Frieden and Hawkins (2010) who advocate for clean records on clients history to guide future decisions. However, results presented a situation where SACCOs were deficient of adequate staff for loan follow up purposes and thus need to boost the staffing levels on the credit departments.

### **Inferential Statistics**

This part of the study was critical in making logical inferences regarding the data obtained after having explored the descriptive aspects of those pieces of data. The findings of the study were further compared and contrasted with previous studies and theoretical perspectives. Diagnostics tests were conducted with a view screen the data and ascertain that the data set met the general assumptions for conducting regression analysis which is a key analytical model for the study at hand.

### **Test of Normality**

Owing to the fact that the responses were only 75, the Shapiro-Wilk test of normality was preferred since the value is less than 2000, above which the study would have used the Kolmogorov-Smirnov test.

For purposes of testing the data for normality, key hypothesis were developed as follows.

$H_0$ : The observed distribution fits the normal distribution.

$H_a$ : The observed distribution does not fit the normal distribution.

Therefore, accepting  $H_0$  means that we would be accepting or assuming normality.

**Table 4.1 Shapiro-Wilk test of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
FINANCIAL PERFORMANCE	.181	75	.056	.926	75	.056

a. Lilliefors Significance Correction

Source: Survey data (2016)

Since the sig. or P value of the Shapiro-wilk test is greater than 0.05 for financial performance standing at 0.056, then the researcher accepted H<sub>0</sub>. By so doing, an assumption was made that the data follows a normal distribution meaning that the data does not significantly deviate from a normal distribution (Shapiro & Wilk, 1965; Razali & Wah, 2011).

**Test for Auto Correlation.**

**Table 4.2: Durbin Watson Test for auto correlation**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.781 <sup>a</sup>	.610	.587	2.09375	1.589

a. Predictors: (Constant), DELINQUENCY MANAGEMENT, CREDIT RISK CONTROL, CREDIT APPRAISAL, COLLECTIONS POLICY

b. Dependent Variable: FINANCIAL PERFORMANCE

Source: Survey data (2016)

The Durbin-Watson in the Model Summary, d = 1.589, which lies between the two critical values of 1.5 < d < 2.5. As such, guided by conventional wisdom by the authors, Durbin & Watson (1971), the researcher made a justified assumption that there was no first order linear auto-correlation in our multiple linear regression data.

**Test for Multi Collinearity**

**Table 4.3 Test for Multi Collinearity using Tolerance and VIF**

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	COLLECTIONS POLICY	.148	6.740
	CREDIT RISK CONTROL	.357	2.798
	CREDIT APPRAISAL	.191	5.243
	DELINQUENCY MANAGEMENT	.414	2.417

a. Dependent Variable: FINANCIAL PERFORMANCE

Source: Survey data (2016)

‘Tolerance’ in this understanding indicates that proportion of variance in the predictor variable that cannot be accounted for by the other predictors. Extremely small values would indicate that a predictor is redundant, while on the other hand, values that are less than 0.10 may merit further investigation (Liu et al., 2003). In the collinearity diagnostics output, Tolerance values stand at 0.148, 0.357, 0.191 and 0.414 for collections policy, Credit Risk Control, Credit Appraisal and Delinquency Management respectively which all surpass the minimum threshold of 0.10. The VIF (variance inflation factor) on the other hand represents the reciprocal of tolerance; (1 / tolerance). The authors assert that as a rule of thumb, a variable whose VIF values is greater than 10 may merit

further investigation and may have multi collinearity problem. The collinearity statistics VIF output for our predictor variables stand at 6.740, 2.798, 5.243 and 2.417 for Collections Policy, Credit Risk Control, Credit Appraisal and Delinquency Management respectively which are all below the maximum or cut off point of 10. As such, an assumption was made on the absence of multi-collinearity problem in the data set.

**Test for Heteroskedacity using Test Glejser.**

Heteroskedacity test examines the possibility of there being differences in the residual variance of the observation over time.

**A decision rule was developed for interpreting Heteroskedasticity Test with Test Glejser**

If the value Sig. > 0.05, then there is no problem of heteroscedasticity.

If the value Sig. <0.05, then there is a problem of heteroscedasticity

(Glejser, 1969) and (Long & Ervin, 2000)

*Table 4.4: Test Glejser for Heteroscedacity*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.951	.350		2.721	.008
COLLECTIONS POLICY	-1.336	.228	-1.073	-5.856	.060
CREDIT RISK CONTROL	.885	.155	.676	5.724	.054
CREDIT APPRAISAL	1.346	.176	1.237	7.653	.051
DELINQUENCY MANAGEMENT	-.373	.127	-.323	-2.941	.074

a. Dependent Variable: AbsUt

*Source: Survey data (2016)*

Based on Output Coefficients, the obtained P value or Sig. Collections Policy variable of 0.060, the Sig. Credit Risk Control of 0.054, Sig. Credit Appraisal of 0.051 and the sig. Delinquency Management of 0.058 are all greater than 0.05 (> 0.05), and as such it was concluded that there was no heteroscedasticity problem in the data set.

**Multiple Regression Analysis**

The table below Statistical output of F test performed using SPSS.

*Table 4.5: F- Test on ANOVA*

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	479.136	4	119.784	27.324	.043 <sup>a</sup>
	Residual	306.864	70	4.384		
	Total	786.000	74			

a. Predictors: (Constant), DELINQUENCY MANAGEMENT, CREDIT RISK CONTROL, CREDIT APPRAISAL, COLLECTIONS POLICY

b. Dependent Variable: FINANCIAL PERFORMANCE

*Source: Survey data (2016)*

From the ANOVA tables, it is evident that at the 0.05 level of significance, there exists enough evidence to conclude that the slope of the regression line is not zero and, hence, that Credit Management Variables included in the model i.e., Collections Policy, Credit Appraisal, Credit Risk

Control and Delinquency Management are all useful predictors of financial since the p value < 0.05. The P Value is 0.043 which is less than 0.05 level of significance.

Table 4.6 presents the regression model summary.

**Table 4.6: Regression Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.902 <sup>a</sup>	.815	.587	2.09375

a. Predictors: (Constant), DELINQUENCY MANAGEMENT, CREDIT RISK CONTROL, CREDIT APPRAISAL, COLLECTIONS POLICY

b. Dependent Variable: FINANCIAL PERFORMANCE

*Source: Survey data (2016)*

As explained by R Square, the Coefficient of Determination, 81.50 % of the variation in the Financial Performance (the dependent variable) is explained by variability in the independent variables i.e., Delinquency Management, Credit Risk Control, Credit Appraisal and Collections Policy. As such, we can assert that only 18.50 % of the variation in the financial performance is explained by other predictors not included in the model. As such, guided by conventional wisdom presented by Draper, Smith, & Pownell (1966) and Seber & Lee (2012), the null hypothesis was rejected and a conclusion made that at least one variable, Collections Policy, Credit Appraisal, Credit Risk Control or Delinquency Management was a statistically significant predictor of financial performance.

Table 4.7 presents multiple linear regression coefficients output with financial performance as the dependent variable and Collections Policy, Credit Appraisal, Credit Risk Control and Delinquency Management as the independent Variables.

**Table 4.7 Model Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.822	.761		11.586	.000
	COLLECTIONS POLICY	1.425	.497	.556	2.867	.005
	CREDIT RISK CONTROL	.628	.337	.232	1.864	.046
	CREDIT APPRAISAL	.060	.383	.027	.157	.037
	DELINQUENCY MANAGEMENT	1.020	.276	.429	3.692	.023

a. Dependent Variable: FINANCIAL PERFORMANCE

*Source: Survey data (2016)*

As observable from the regression analysis results i.e. the "Sig." column, all the independent variables coefficients are statistically significantly different from 0 (zero). The coefficient for Collections Policy (1.425) is significantly different from 0 because its p-value is 0.05, which is smaller than 0.05 level of significance. As such, collections policy influences financial performance of the SACCOs. The findings agree with Gatuhu (2013) and Wachira (2015) who also found enough evidence to support such condition. The findings marry also with prescriptions of the transaction cost theorists who prescribe strict collections policy framework as a precondition for loan

performance Schwartz (1974), Tadelis and Williamson (2012) and Saussier (2000). The findings of the study further support agency propositions (Hillier, Grinblatt, & Titman, 2011; Leland, 1998).

The coefficient for Credit Risk Control (0.628) is statistically significant because its p-value of 0.046 is less than 0.05 level of significance. As such credit risk control is a statistically significant determinant of financial performance. The findings support agency theorists' suggestions that strict credit risk control would serve to improve firm performance Hillier, Grinblatt, and Titman (2011). The findings are further in agreement with previous studies by Poudel (2012), Gatuhu (2013) and Kibui and Moronge (2014) who also established similar conditions.

The coefficient for Credit Appraisal (0.060) is statistically significant because its p-value of 0.037 is less than 0.05 level of significance. Therefore, credit appraisal mechanisms do influence the level of financial performance. The findings support information asymmetry theorists' positions that prescribe strict appraisal of clients for improved repayments (Eppy, 2005; Lin & Sun, 2006; Frieden & Hawkins, 2010, Korir, 2014). The findings also support earlier researchers who include Kiplimo and Kalio (2014), Gatuhu (2013), Gisemba (2010) and Kimeu (2008) who all established similar conditions.

Finally, the coefficient for Delinquency Management (1.020) is statistically significant because the P –Value of 0.023 is less than 0.05 level of significance. The level of application of delinquency management therefore influences financial performance of the SACCOs positively. This is in agreement with prescriptions of agency theorists who include Hillier, Grinblatt, and Titman (2011) and Leland (1998). The findings further support past study findings including Njeru (2012), Kibui and Moronge (2014) and Kwagara (2006) who established similar findings. We therefore conclude that Collections Policy, Credit Risk Control, Credit Appraisal and Delinquency Management are all statistically significant predictors of financial performance.

The regression model was therefore developed as follows;

$$\text{Financial Performance} = 8.822 + 1.425 (\text{Collections Policy}) + 0.068 (\text{Credit Risk Control}) + 0.60 (\text{Credit Appraisal}) + 1.020 (\text{Delinquency Management})$$

### **Correlation Analysis**

The researcher also used Pearson Correlation analysis to understand the magnitude and direction of relationship, if any, between each credit management variable with financial performance. Table 4.8 indicates the Correlation Output as derived from SPSS.

**Table 4.8: Pearson Correlation Analysis**

		FINANCIAL PERFORMANCE
COLLECTIONS POLICY	Pearson Correlation	.721**
	Sig. (2-tailed)	.030
	N	75
CREDIT RISK CONTROL	Pearson Correlation	.504**
	Sig. (2-tailed)	.002
	N	75
CREDIT APPRAISAL	Pearson Correlation	.655**
	Sig. (2-tailed)	.021
	N	75
DELINQUENCY MANAGEMENT	Pearson Correlation	.720**
	Sig. (2-tailed)	.001
	N	75

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

Source: Survey data (2016)

As evidenced by the Pearson Correlation output, there is a significant positive relationship between Collections Policy and financial performance. The strength of association is very strong since the Pearson Correlation Co-efficient is 0.721 and statistically significant since the Sig. (2-tailed) value of 0.030 is less than 0.05 level of significance. The condition agrees with Gatuhu (2013) and Wachira (2015) who also found similar conditions. The results are also in agreement with agency and transaction cost theorists who prescribe strict collections policy framework as a precondition for loan performance (Schwartz, 1974; Tadelis & Williamson, 2012; Saussier, 2000; Hillier, Grinblatt, & Titman, 2011, & Leland, 1998).

The Pearson correlation coefficient with regard to Credit Risk Control is 0.504 which is indicative of a strong positive relationship between Credit Risk Control and financial performance. The relation is statistically significant since the Sig. (2-tailed) value of 0.002 is less than 0.05 level of significance. The findings support agency theorists' suggestions that strict credit risk control would serve to improve firm performance positively as held by Hillier, Grinblatt, and Titman (2011). The findings also support most previous studies by Poudel (2012), Gatuhu (2013) and Kibui & Moronge (2014) who also established similar conditions.

The Pearson Correlation Coefficient Credit Appraisal is 0.655 which indicates a strong level of association between Credit Appraisal and financial performance. The nature of relationship is positive meaning that an increase in one variable leads an increase in the other. The relationship is significant since the Sig. (2-tailed) value of 0.021 is less than 0.05 level of significance. The findings support the views held by information asymmetry theorists' who argue that strict appraisal of clients would positively influence financial performance; Lin and Sun (2006); Frieden and Hawkins (2010) and (Korir, 2014). The findings also support earlier findings by Kiplimo and Kalio (2014), Gatuhu (2013), Gisemba (2010) and Kimeu (2008) who all established similar conditions.

Finally, the Pearson Correlation Coefficient for Delinquency Management is 0.720 which indicates a strong level of positive association between Delinquency Management and financial performance. The nature of relationship is positive and the relationship is statistically significant since the Sig. (2-tailed) value 0.01 is less than 0.05 level of significance. The findings support the views held by agency theorists who including Hillier, Grinblatt, and Titman (2011) and Leland (1998) who prescribe strict mechanisms to manage delinquents. The findings further support past studies including Njeru (2012), Kibui and Moronge (2014) and Kwagara (2006) who found comparable results.

### **Summary of Key Findings, Conclusion and Recommendations**

All the null hypothesis as developed in the study were rejected and a conclusion made that indeed the four variables included in the model i.e., Collections Policy, Credit Risk Control, Credit Appraisal and Delinquency Management were all useful predictors of financial performance. It was further concluded that all the four variables used as independent variables influenced positively the financial performance of the SACCOs. As such, an increase in the level of tightening of the Collections Policy leads to an increase in the level of financial performance of the SACCOs. An increase in efforts and strategies for Credit Risk Controls would contribute to an increase in the financial performance of the SACCOs. Likewise, an increase in the level of Credit Appraisal in the SACCOs would lead to an increase in financial performance. Lastly, an increase in delinquency management practices in the SACCOs would lead to an increase in the financial performance of the SACCOs indicated by Return on Equity, Return on Assets, Write off ratio and Repayment rate. The Pearson correlation analysis results indicated that all the four predictor variables included in the model demonstrated at positive relationships with financial performance. As such, an increase in practices that pursue any of the credit management ideals would lead to statistically significant increase in the dependent variable i.e., financial Performance. The findings suggest that SACCOs need to invest more on Credit Management practices. This is due to the fact that all the components of a prudent credit management model were empirically proven to add to the level of financial performance.

The study filled a knowledge gap by providing evidence of wide performance disparities for the SACCOs. Such evidence was scarce and had not been encountered in past studies. Stakeholders therefore need to work on the wide performance disparities in the SACCO sub sector in order to ensure survival and sustainable growth of all the sector players. The study also filled an empirical gap proving evidence on the relationship between credit management and performance. The researcher therefore recommends that SACCOs make more investment to Credit Management Practices as this has been empirically proven to contribute to financial performance. On collections policy, the use of guarantees for checking default on loans need to be up scaled and staff need to be motivated to deal more efficiently delinquencies. The researcher recommends that SACCOs need to upscale their reviews on collection policies on a more regular basis to ensure they are up to date with current conditions. The researcher also filled a knowledge gap by providing evidence that a stringent policy works better than a lenient one. A recommendation was therefore made for SACCOs to embrace a stringent as opposed to a lenient collections policy as held by agency theorists and majority of empirical studies.



On Credit Risk Control, the study filled a knowledge gap and provided evidence that the factor was significant in enhancing performance of SACCOs. As such, the SACCOs need to continue and even up scale the imposition of loan size limits as it was found to be a viable strategy in credit management. The researcher further recommends regular credit checks in line with propositions of information asymmetry theorists. The SACCOs need to develop and flexible repayment periods as a sure way of improving loan portfolio performance. The use of penalties for late payment needs to be developed in order to enforce loan repayments on defaulters and improve loan performance. The researcher further recommends the use of credit application forms for all applications as a way of enhancing loan records and monitoring. SACCOs need to establish, equip and develop their credit committee as they are critical in reducing default risk. Lastly, the researcher recommends an optimal loan pricing strategy as interest rates were found to impact on financial performance.

On Credit Appraisal, a knowledge gap was filled by provision of evidence to support the value of client appraisal as a credit management tool. The study established that the factor enhances performance. The researcher recommends the application of the 5 Cs Model in totality in appraising loan applicants. As such aspects of collateral, condition, character, capacity and Capital need to be factored in during appraisals. The staff need to be well trained on Client appraisal for optimal results.

On Delinquency Management, the study also filled a knowledge gap and provided evidence that the factor was significant in enhancing performance. The researcher recommends that all SACCOs establish a Computerised Loan Tracking System for better tracking of loan as they fall due. It is further recommended that delinquents be identified in the earliest possible opportunity and the researcher recommends defaulters to be labelled after failing to meet 2 consecutive instalments. SACCOs need to further keep record of hardcode defaulters to avoid future mistakes in lending which is consistent with prescriptions of information asymmetry theorists. Majority of the respondents reported that their SACCOs did not have enough personnel for purposes of loan follow up which present a need to boost the staffing levels in the credit department. As such, the staffing levels need to be addressed for better quality of the loan book.

## **REFERENCES**

- Abeyratne, S. (2001). *Banking and Debt Recovery in Emerging Markets: The Law Reform Context*. Ashgate Publishing.
- Allen, L., & Saunders, A. (2002). *A survey of cyclical effects in credit risk measurement models*. <http://papers.ssrn.com/sol3/papers.cfm>
- Altman, E. I. (2002). Managing credit risk: A challenge for the new millennium. *Economic Notes*, 31(2), 201–214.
- Altman, E., Resti, A., & Sironi, A. (2004). Default recovery rates in credit risk modelling: A review of the literature and empirical evidence. *Economic Notes*, 33(2), 183–208.
- Bagchi, S. K. (2004). Credit risk management. *Publisher: Jaico Publishing House Number of Pages, 278*. <http://jaicobooks.com>

- Ballwieser, W., Bamberg, G., Beckmann, M. J., Bester, H., Blickle, M., Ewert, R., Feichtinger, G., Firschau, V., Fricke, F., Funke, H., & others. (2012). *Agency theory, information, and incentives*. Springer Science & Business Media. <https://books.google.com>
- Bhattacharya, H. & others. (2011). *Banking Strategy, Credit Appraisal, and Lending Decisions: A Risk-return Framework*. *OUP Catalogue*. <https://ideas.repec.org>
- Bielecki, T. R., & Rutkowski, M. (2013). *Credit risk: Modeling, valuation and hedging*. Springer Science & Business Media. <https://books.google.com>
- Brealey, R. A., Myers, S. C., Allen, F., & Mohanty, P. (2012). *Principles of corporate finance*. Tata McGraw-Hill Education.
- Bulmberg, B., Cooper, D. R., & Schindler, P. S. (2011). *Business research methods*. McGraw-Hill/Irwin, Boston.
- Chen, Y., Guo, R.-J., & Huang, R.-L. (2009). Two stages credit evaluation in bank loan appraisal. *Economic Modelling*, 26(1), 63–70.
- Cossin, D., & Pirotte, H. (2001). *Advanced credit risk analysis: Financial approaches and mathematical models to assess, price, and manage credit risk* (Vol. 73). Wiley.
- Draper, N. R., Smith, H., & Pownell, E. (1966). *Applied regression analysis* (Vol. 3). Wiley New York. <https://leseprobe.buch.de>
- Durbin, J., & Watson, G. S. (1971). Testing for serial correlation in least squares regression. III. *Biometrika*, 58(1), 1–19.
- Eppy, I. (2005). *Perceived Information Asymmetry, Bank lending Approaches and Bank Credit Accessibility by Smes in Uganda*. *Unpublished Thesis*) Makerere University.
- Ficht, A. (2004). *Credit risk management*. Butterworth-Heinemann. <https://books.google.com>
- Fredrick, O. (2012). The Impact of Credit Risk Management on Financial Performance of Commercial Banks in Kenya. *DBA Africa Management Review*, 3(1), 22–37.
- Frieden, B. R., & Hawkins, R. J. (2010). Asymmetric information and economics. *Physica A: Statistical Mechanics and Its Applications*, 389(2), 287–295.
- Gamba, P., & Komo, I. (2014). Evolution, growth and decline of the cooperative sector. *A Paper Prepared for the Centre for Governance and Development Downloaded on 3rd December*. <http://www.cgd.or.ke/documents/Cooperatives%20policy%20brief.pdf>
- Gatuhu, R. N. (2013). *The effect of credit management on the financial performance of microfinance institutions in Kenya* [University of Nairobi,]. <http://erepository.uonbi.ac.ke/handle/11295/60220>
- Gisemba, P. N. (2010). *The relationship between credit risk management practices and financial performance of Saccos in Kenya*. University of Nairobi, Kenya.

- Glejser, H. (1969). A new test for heteroskedasticity. *Journal of the American Statistical Association*, 64(325), 316–323.
- Gliem, J. A., & Gliem, R. R. (2003). *Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales*. <https://scholarworks.iupui.edu/handle/1805/344>
- Gordy, M. B. (2000). A comparative anatomy of credit risk models. *Journal of Banking & Finance*, 24(1), 119–149.
- Hillier, D., Grinblatt, M., & Titman, S. (2011). *Financial markets and corporate strategy*. McGraw-Hill. <http://strathprints.strath.ac.uk/47824/>
- Hu, X., Gao, J., Li, F., Lv, W., Zhang, X., & Zhang, Z. (2009). *Credit Risk Control*. Google Patents. <https://www.google.com/patents/US20120030091>
- Kibui, N., & Moronge, M. (2014). Effects of credit risk management on financial performance of SACCOS: A case study of Harambee SACCO. *International Journal of Social Sciences and Project Planning Management*, 1(3), 157–172.
- Kimeu, T. K. (2008). *A Survey of Credit risk management techniques of unsecured bank loans of commercial banks in Kenya*.
- Kiplimo, K. S., & Kalio, A. M. (2014). *Influence of Credit Risk Management Practices on Loan Performance of Microfinance Institutions in Baringo County*. <http://www.ijsr.net/archive/v3i10/T0NUMTQ2NzM=.pdf>
- Kolapo, T. F., Ayeni, R. K., & Oke, M. O. (2012). Credit risk and commercial banks' performance in Nigeria: A panel model approach. *Australian Journal of Business and Management Research*, 2(2), 31–38.
- Korir, S. (2014). *The effect of credit risk management on financial performance of deposit taking microfinance institutions in kenya* [SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI]. <http://erepository.uonbi.ac.ke>
- Kothari, C. R. (2011). *Research methodology: Methods and techniques*. New Age International. <http://books.google.com>
- Kutner, M. H., Nachtsheim, C., & Neter, J. (2004). *Applied linear regression models*. McGraw-Hill/Irwin.
- Kwagara, M. P. (2006). *An Assessment of Credit Risk Management Techniques Adopted By Microfinance Institutions in Kenya*. University of Nairobi.
- Lando, D. (2009). *Credit risk modeling: Theory and applications*. Princeton University Press. <https://books.google.com>
- Leland, H. E. (1998). Agency costs, risk management, and capital structure. *The Journal of Finance*, 53(4), 1213–1243.
- Lin, J. Y., & Sun, X. (2006). Information, Informal Finance, and SME Financing. *Frontiers of Economics in China*, 1(1), 69–82.

- Liu, R. X., Kuang, J., Gong, Q., & Hou, X. L. (2003). Principal component regression analysis with SPSS. *Computer Methods and Programs in Biomedicine*, 71(2), 141–147.
- Long, J. S., & Ervin, L. H. (2000). Using heteroscedasticity consistent standard errors in the linear regression model. *The American Statistician*, 54(3), 217–224.
- Mays, E. (2001). *Handbook of credit scoring*. Global Professional Publishi. <https://books.google.com>
- Merton, R. C. (1974). On the pricing of corporate debt: The risk structure of interest rates. *The Journal of Finance*, 29(2), 449–470.
- Miller, D., & Sardais, C. (2011). Angel agents: Agency theory reconsidered. *The Academy of Management Perspectives*, 25(2), 6–13.
- Mugenda, O. M., & Mugenda, A. G. (2003). Research methods. *Nairobi: ACTS*.
- Mugwe, D. (2011). Loan defaults pose risk to SACCOs' financial stability. *Business Daily*. <http://www.businessdailyafrica.com>
- Mukherjee, D. D. (2008). *Credit Appraisal, Risk Analysis and Decision Making: An Integrated Approach to On and Off Balance Sheet Lending*. Mumbai: Snow white Publications Pvt. Ltd.
- Njeru Warue, B. (2012). Factors affecting loan delinquency in microfinance institutions in Kenya. *International Journal of Management Sciences and Business Research*, 1(12). <http://papers.ssrn.com>
- Ott, R. L., & Longnecker, M. (2015). *An introduction to statistical methods and data analysis*. Nelson Education.
- Poudel, R. P. S. (2012). The impact of credit risk management on financial performance of commercial banks in Nepal. *International Journal of Arts and Commerce*, 1(5), 9–15.
- Razali, N. M., & Wah, Y. B. (2011). Power comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling tests. *Journal of Statistical Modeling and Analytics*, 2(1), 21–33.
- Saunders, A., Cornett, M. M., & McGraw, P. A. (2006). *Financial institutions management: A risk management approach* (Vol. 8). McGraw-Hill/Irwin. <http://www.mccneb.edu/outlines/business/FINA/FINA1310.doc>
- Saussier, S. (2000). Transaction costs and contractual incompleteness: The case of Électricité de France. *Journal of Economic Behavior & Organization*, 42(2), 189–206.
- Schwartz, R. A. (1974). An economic model of trade credit. *Journal of Financial and Quantitative Analysis*, 9(04), 643–657.
- Seber, G. A., & Lee, A. J. (2012). *Linear regression analysis* (Vol. 936). John Wiley & Sons. <https://books.google.com>.

- Shapiro, S. S., & Wilk, M. B. (1965). An analysis of variance test for normality (complete samples). *Biometrika*, 591–611.
- Tadelis, S., & Williamson, O. (2010). Transaction cost economics. *University of California, Berkeley*, 14. [http://faculty.haas.berkeley.edu/stadelis/tce\\_org\\_handbook\\_111410.pdf](http://faculty.haas.berkeley.edu/stadelis/tce_org_handbook_111410.pdf)
- Tadelis, S., & Williamson, O. E. (2012). Transaction cost economics. Available at SSRN 2020176. [http://papers.ssrn.com/sol3/Papers.cfm?abstract\\_id=2020176](http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=2020176)
- Van Deventer, D. R., Imai, K., & Mesler, M. (2013). *Advanced financial risk management: Tools and techniques for integrated credit risk and interest rate risk management*. John Wiley & Sons. <https://books.google.com>.
- Wachira, D. W. (2015). *The Effect of Credit Policy on the Financial Performance of Deposit Taking SACCOs in Kenya* [University of Nairobi]. <http://erepository.uonbi.ac.ke/handle/11295/93895>
- Wanyama, F. O. & others. (2009). *Surviving liberalization: The cooperative movement in Kenya*. ILO. [http://www.oit.org/public/english/employment/ent/coop/africa/download/wp10\\_survivingliberalization.pdf](http://www.oit.org/public/english/employment/ent/coop/africa/download/wp10_survivingliberalization.pdf)
- Williamson, O. E. (2005). *Transaction cost economics*. Springer. [http://link.springer.com/chapter/10.1007/0-387-25092-1\\_4](http://link.springer.com/chapter/10.1007/0-387-25092-1_4)