EFFECT OF FIRM FINANCIAL FACTORS ON FINANCIAL PERFOMANCE OF SACCOS IN NANDI COUNTY, KENYA

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DECLARATION

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CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance of Masinde Muliro University of Science and Technology a Proposal entitled **'Effect of Firm Financial Factors and financial Perfomance of SACCOS in Nandi County.'**

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DEDICATION

To my beloved husband Eliud Kiprono Songok and my children Olive, Odelia and Ethan, my dear parents Mr and Mrs Antony Lelei who build my foundation of my life, my beloved father and mother in-laws,brothers Laban and Noa ,my loving sister Joan whose financial assistance, prayers ,encouragement, support and motivation originated from, I dedicate this work.

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ABSTRACT

SACCOS are key components in the economy and social development. However, it's experiencing both internal and external issues which should be handled. The study sought to determine the effect of firm financial factors on financial performance of SACCOS in Nandi County. Specifically, the study determined the effects of management of loan debtors, Capital sufficiency and interest rate levied on the financial performance of SACCOs in Nandi County. Objectives of the study were to determine the effects of management of loan debtors, Capital adequacy and the interest rate charged on financial performance of SACCOs in Nandi County. The study was guided by liquidity preference theory, human capital theory, efficient structure theory and Pecking order theory. The study adopted descriptive survey research design. The target population was therefore all the ten SACCOS in Nandi County registered and licensed as at January 2023. Stratified and simple random method was used to single out the Eighty-seven employees to participate. Primary data was used and data collected using open self-structured questionnaires. Validity was tested using Content and construct validity while Cronbach's alpha coefficient was used to determine the reliability of the research instruments. Data was analyzed using both descriptive and inferential statistics. Data was analyzed descriptively using frequencies, percentages, mean and standard deviations and also using inferential statistics that involved Pearson's Product Moment Correlation Coefficient, simple linear regression and stepwise regression analysis whose results were presented in tables and figures. The study finding indicated that there was a positive and significant effect by management of loan debtors to performance of Saccos in Nandi County ($\beta = 0.960$, $P = 0.05$), there was a positive significant relationship between capital adequacy and financial performance of SACCOS in Nandi County ($\beta = 1.289$, $P < 0.05$) and that there was a significant effect on interest rate charged ($\beta = 0.635$, $P = 0.05$). These findings will be of great significance to the CBK, Board of Directors, managers and shareholders of the Saccos, researchers and the scholars. It will also provide input for further research to be conducted on SACCOS in future.

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LIST OF ABBREVIATION AND ACRONYM

CAR:	The Capital Adequacy Ratio
CBK:	Central Bank of Kenya
DT:	Deposit Taking
DTS:	Deposit Taking SACCO
MMUST:	Masinde Muliro University of Science and Technology
RMP:	Relative Market power
ROA:	Return on Asset
ROCE:	Return on Capital Employed
ROE:	Return on Equity
ROI:	Return on Investments
SACCO:	Savings and Credit Co-operative Societies
SASRA:	Sacco Society Regulatory Authority
	Structure-Conduct
VIF:	Variance Inflation Factor

OPERATIONAL DEFINITION OF TERMS

Deposit Taking Sacco: Savings and Credit Cooperatives (SACCOs) engage in the dual activities of facilitating savings and credit transactions, while also providing services for the acceptance and withdrawal of funds on a daily basis through counter transactions. Autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically-controlled enterprise.

Financial Performance: Is a measure of how efficiently a company uses its assets to generate revenue from its primary business. The metric assesses the fiscal well-being of an entity. Return on assets is widely recognized as a key metric for evaluating financial performance. The financial performance of an organization serves as a guiding factor for management in determining the plans and policies necessary to enhance the long-term viability and stability of the organization.

Interest Rate: The additional fee that a lender will charge a borrower over and above the loan's principle. The fee levied for the utilization of borrowed funds in a savings and credit cooperative (SACCO) or any other financial organization.

Loan Debtors:	Individuals or entities that seek financial assistance from Saccos, banks, credit unions, or other financial institutions in the form of loans.
Capital Adequacy Ratio:	A measure of how capital a bank available reported as a percentage of a bank's risk-weighted credit exposure.
Loan Defaulter:	An individual or organization that neglects to fulfill their debt repayment commitment to a financial institution.
Membership Enrolment:	The process of voluntary admission of eligible people or groups as members of a sacco is facilitated through the completion and signing of application forms, which are then submitted to the responsible management.
Return On Equity (Roe):	The primary emphasis is placed on the returns provided to shareholders, which can occasionally be subject to manipulation in order to inaccurately depict the financial stability of an entity.
Sacco:	A financial organization characterized by member ownership, control, and operation, with the primary objectives of fostering savings, offering credit at favorable interest rates, and delivering other financial services to its members.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Cooperative societies have a long-standing history, dating back to prior ages across the globe. Historical evidence indicates that the Babylonians engaged in cooperative farming, while the Chinese had savings and lending groups that bear resemblance to contemporary practices. Cooperative efforts were necessary in North America for activities such as land clearance in anticipation of agricultural cultivation, threshing beans, and the construction of barns. The establishment of the first organized cooperative enterprise in the United States is believed to have occurred in 1752, almost twenty-five years prior to the signing of the Declaration of Independence (Cobia, 2008). Notwithstanding these factors, cooperatives have challenges include insufficient cash, limited member engagement, absence of unified branding, inadequate managerial expertise, as well as instances of corruption and fraudulent activities. According to Siddaraju (2012), the presence of these factors has resulted in reduced efficiency and diminished competitiveness within these institutions.

During the late 1950s in Africa, farmers actively advocated for and established cooperatives as a means to enhance the cultivation and trade of cash commodities such as pyrethrum and coffee. According to Mumanyi (2014), the cooperative movement in Ghana has been extensively copied across the African continent. According to Klinkhamer (2009), SACCOs in Tanzania, for instance, recruit members from the neighborhood or a comparable employer. According to CGAP (2005), the individuals involved in this group possess a common geographic location, community, employer,

or other forms of linkages. Having no outside influence and being the sole recipients, savers, and decision-makers (Mwakajumilo, 2011).

The origin of the SACCO finances can be attributed to the saving deposits made by its members (Shrestha, 2009). According to Sharma (2005), those who were members of SACCOs experienced significant gains in their earnings, assets, food consumption, education expenditure, and improved housing. Additionally, they observed a drop in health expenses when compared to individuals who were not members of SACCOs. Nevertheless, numerous cooperatives and SACCOS in Tanzania have challenges related to inadequate management, misappropriation of funds, insufficient operating capital, substandard business practices, and elevated rates of loan delinquency (Maghimbi, 2010; Mwakajumulo, 2011).

The implementation of the government's *Bonna Baga ggawale* (Prosperity for all) initiative in Uganda has significantly elevated the role of SACCOs (Savings and Credit Cooperative Organizations). This program aims to address the issue of limited accessibility to financial services, among other interventions. The initiative has been developed with the intention of utilizing a SACCO-per-sub county approach to facilitate the distribution of agricultural and commercial loans to borrowers at interest rates that are lower than the prevailing market rates (Mugenyi, 2010).

The earliest cooperative in Kenya was created by white settlers in 1908 at Kipkelion. It was registered in accordance with the firms' regulation and intended to provide dairy and agricultural assistance to white settlers (Kobia 2011). Subsequently, regulatory reforms have been implemented with the aim of enhancing the efficiency of SACCO operations in order to optimize profits for its members. Despite being faced with numerous obstacles, such as inadequate record keeping, loan backlogs, high illiteracy

levels among SACCO members, audit arrears, administrative deficiencies, insufficient capital, and hefty taxation.

According to Ademba (2010), the SACCO sector in Kenya holds the distinction of being the largest in Africa and the seventh largest globally. According to Makori, Munene, and Muturi (2013), the SACCO movement in Kenya represents a significant portion, specifically 20%, of the nation's savings. This statistic underscores the crucial role that SACCOs play in both the economic and social advancement of Kenya. Nevertheless, the insufficiency of capital has emerged as a significant obstacle for SACCOS in Kenya (Chahayo, Bureti, & Juma, 2013). Additional difficulties that need to be addressed in this context encompass loan default, risk assessment and management, negative cash flow, inadequate governance, and suboptimal investment decisions (Olando & Mbewa, 2012).

Many obstacles have been put in the way of the SACCO movement in Kenya's progress toward its goals of soundness and stability, effectiveness and efficiency, corporate governance, product diversity and competition, and integration into the formal financial system (KUSCC, 2010). The banking sector encounters inherent hurdles when it comes to the co-operative movement.

Mwatsuma, Mary, and Owen (2015) examined the effectiveness of co-ops in Kenya's Kilifi County within the context of the country's decentralized government. The knowledge base of members, workers, and managers, as well as the resource base of the co-ops, were found to directly influence the functioning of these organizations. The elements that exerted an indirect influence on these outcomes encompassed the operational environment of the cooperative, the fundamental principles upheld by the cooperative, and the overall condition of the cooperative.

According to Miriti (2014) The potential impact of default on the growth and expansion of SACCOs has not been widely recognized as a significant danger. This is due to the perception that default is primarily an individual issue, rather than one that directly affects the overall profitability of the SACCOs. The study revealed that loan defaulters were linked to the shares of their guarantors, and a significant majority of 78.2% of the participants expressed agreement with this approach for addressing loan defaulters.

Yashwant (2014) conducted a study on the impact of increased default rates in the corporate lending segment on nonperforming assets. The study found that several financial institutions have been identified as experiencing managerial failures due to their inability to effectively address the growing issue of nonperforming assets. Several commercial entities have expressed interest in restructuring their debt as a means to avoid potential consequences from banks due to non-payment of loans. The precise cause of the default remains unclear; however, it is imperative for financial institutions to conduct a thorough investigation into its origins in order to effectively address and mitigate this issue.

Moreover, according to the inspection report compiled by the SACCO Societies Regulatory Authority SASRA (2018), it was revealed that the underperformance of SACCOs in Kenya can be attributed to mismanagement, fraudulent activities, corrupt practices, and the utilization of creative accounting strategies to conceal their poor performance. As a result, several measures have been taken to address this issue, such as license revocations, Sacco deregistrations, and the placement of certain SACCOs on a watch list.

The Sacco societies that have been impacted are Elimu Sacco, Nandi Hekima Sacco, Miliki Sacco, Sukari Sacco, Ainabkoi Sacco, Goodhope Sacco, Jitegemee Sacco, Kenya Midland Sacco, Orient Sacco, Uchongaji Sacco, Rachuonyo Teachers Sacco, Nyamira Teachers Sacco, Stake Kenya Sacco, Wevarsity Sacco, Telepost Sacco, and Jumuika Sacco Society Limited. Several studies have recognized the significance of internal control systems in the operational aspects of organizations (Chang 2019, Masanja 2018, & Lakis 2012). However, there is a limited number of studies that have specifically examined the impact of accounting internal control systems, regulatory framework, and financial performance of deposit-taking Sacco's in Kenya.

1.2 Statement of the Problem

According to the SASRA report of 2020, it has been observed that Sacco institutions in Kenya, despite their significant contribution to the socio-economic development of the country, have experienced a decline in financial performance over the past three years. This decline is reflected in an average growth rate of 5.23% in 2020.For instance, (SASRA) has canceled the licenses of three organizations; prohibiting them from receiving deposits. Three notable institutions in this context include Nandi Hekima, Miliki Sacco, and Sukari Sacco. The Nandi Hekima Savings and Credit Cooperative Organization (SACCO) serves as an indicator of the prevailing financial insufficiency within SACCOs operating in Nandi County. According to SASRA, the deregistration of the Sacco's was deemed necessary due to the occurrence of business shrinkage in certain cases. The SASRA report linked this to inefficiencies in management.

According to the SASRA report of 2021, the Metropolitan Sacco has garnered attention due to an increasing number of member complaints regarding its operations. The Sacco faced difficulties in meeting the financial needs of its members, as evidenced by the

suspension of dividend payments in 2021, indicating liquidity challenges. Furthermore, the Sacco has been criticized for its failure to refund the entire share capital to exiting members, as well as for the lengthy process involved in approving loans. Additionally, the Sacco's mobile banking services were reported as non-functional, thus withholding 50 percent of member dividends.

In the SASRA report of 2022, it is observed that the executives of Mwalimu Sacco, whether because to their lack of experience in acquisitions or motivated by personal gain, proceeded with the transaction without heeding any warning signs. Consequently, they acquired a significant 75 percent stake in the bank in a single transaction. The expenditure amounted to a total of 2.4 billion Kenyan Shillings. The Co-operative Alliance of Kenya, which represents over 14 million members of the cooperative movement, was one of the initial organizations to raise concerns about the transaction, citing the lack of adherence to proper procedural protocols. Every individual who registers is required by the Sarbanes-Oxley Act (SOX) of 2002 to establish and uphold sufficient internal control measures.

Even though a number of studies have been done on the effect of firm financial factors, however they were done in different contexts like Uganda (Mugenyi, 2010), Tanzania (Maghimbi, 2010), Ghana (Mumanyi, 2024) and China (Chang, 2019) among others but only a few have been carried out in Kenya while none has been carried out in Nandi county so far. This study therefore filled this gap by focusing on the effect of firm financial factors on financial performance of SACCO's in Nandi county, Kenya. To this end, the research has examined several aspects that influence the financial performance of SACCOs, including governance, educational attainment, and market risk. Few studies have been done on how the length of time it takes to process loans,

how loan defaulters are handled, and the interest rate charged affect the success of SACCOs. The present study aims to examine the effect of firm financial performance on the performance of SACCOs in Nandi County, Kenya.

1.3 General Objective

The general objective of this study was to establish the effect of firm financial factors on financial perfomance of SACCOs in Nandi county, Kenya.

1.3.1 Specific Objectives

The specific objectives pursued by the study were:

i. To establish effect of management of loan debtors on performance of SACCOs in Nandi County.
ii. To determine the effect of capital adequacy on the performance of SACCOs in Nandi County.
iii. To examine effect of interest rate charged on customers loans on performance of SACCOs in Nandi County.

1.4 Research Hypotheses

H_{01}: There is no significant effect of Management of loan debtors on performance of SACCOs in Nandi County.

H_{02}: There is no significant effect of Capital adequacy on performance of SACCOs in Nandi County

H_{03}: There is no significant effect of Iinterest rate charged on performance of SACCOs in Nandi County.

1.5 Significance of the study

The primary objective of this study is to assess the impact of financial parameters specific to firms on the performance of SACCOS in Nandi County. This aligns with the overarching objective of the study, which aimed to provide comprehensive information on the key factors influencing the financial performance of SACCOS. The findings of this study are of practical value to the CBK, the regulatory body in this sector, as they offer guidance on implementing effective regulatory systems and supervisory programs to ensure the continued functioning of commercial banks and other financial institutions.

The study findings yielded valuable insights into the influence of specific factors on the financial performance of SACCOs. Additionally, it is advised that the board and management of SACCOs gain a deeper understanding of the impact of bank-specific factors on financial performance. This understanding will enable them to take appropriate measures to enhance the financial performance of SACCOs on an ongoing basis. Additionally, it can provide a structure for managers and other stakeholders to evaluate the financial performance of their SACCOS in relation to profitability, taking into consideration the factors that influence it. The study's findings revealed information pertaining to the individual factors of financial performance, specifically capital adequacy, interest rate charged, and managerial efficiency. The comprehensive examination of these factors provided in-depth insights into each aspect, so making a valuable contribution to the existing body of knowledge.

1.7 Scope of the Study

This study determined the effect of firm financial factors on the performance of SACCOs in Nandi County Kenya. The study targeted all the 10 registered SACCOs in Nandi county, involving their managers, accountants and board members. The study had a time scope of five years spanning 2022-2024 and was conducted using primary data between June 2023 and October 2023. Research covered ten SACCOS among co-operatives and focused on the set objectives and the 3 variables concerned are management of loan debtors, capital adequacy and interest rate charged on debtors.

1.8 Limitations of the Study

There a number of factors which affected the methodology of this study hence the interpretation of the research findings. First, the data collection exercise took longer than expected since some respondents took too long to fill the questionnaires due to busy schedules among other reasons. The research overcame this by conducting follow ups both physically, writing emails and making phone calls. This therefore hand financial implications which had not been foreseen. Secondly, some respondents were unwilling to give information being sought by the researcher due to bureaucracy of some management structures and some fears like industrial espionage. The researcher countered this by seeking permission from NACOSTI and other relevant government authorities and also adhering to all ethical considerations as discussed in chapter three.

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CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the theoretical literature review, empirical literature review, conceptual framework ,gaps in review of literature and conceptual reviews.

2.2 Theoretical Literature Review

This study was guided by the following theories; liquidity preference theory, economic efficient theory, Human Capital theory and Pecking order theory.

2.2.1 Liquidity preference Theory

In his renowned work, "The General Theory of Employment, Interest, and Money," Keynes (1936) formulated the liquidity preference theory as a response to the economic challenges posed by the Great Depression, characterized by continuous unemployment. This theory emerged as an alternative to the quantity theory of money, which failed to provide adequate solutions to the prevailing economic issues within society. The theory was founded on the premise that money serves as a financial asset within a portfolio, which can comprise either money or bonds. The researcher conducted more investigation into both the transaction and asset theories of money demand. Keynes identified three distinct incentives for individuals to hold money: the transaction motive, the precautionary motive, and the speculative drive.

Calomiris, Heider, and Hoerova (2014) assert that the maintenance of cash reserves by banks serves the purpose of mitigating liquidity risk and serves as a prudential

regulatory mechanism. Drawing inspiration from the Black-Scholes model, the theoretical framework posits that cash, in contrast to capital, is devoid of risk and can be readily observed and verified. Financial institutions employ the strategy of retaining cash as a means to both manage default risk and liquidity risk.

There exist multiple theories pertaining to liquidity, one of which is the liquid asset theory. This theory primarily emphasizes the asset aspect of the financial position and posits that financial institutions should maintain substantial quantities of liquid assets. The purpose of holding such assets is to provide a buffer against potential demands or payments, as well as to ensure the availability of readily marketable short-term liquid assets in the face of unforeseen circumstances. The aforementioned strategy is deemed to be financially burdensome within the contemporary context of a fluctuating money market (Ngwu, 2006).

The concept of shift ability states that in order to keep a bank solvent, it is necessary to have assets that can be easily traded for cash from other lenders or investors. The concept expands the definition of liquidity to include marketable securities. Based on the maturity structure of its loan and investment portfolios, a Sacco's liquidity can be evaluated and managed, according to the theory of anticipated income. Loans secured by real estate are predicted to have lower liquidity levels than short-term company and customer installment loans (Taye, 2014). The commercial loan theory posits that the liquidity of SACCOs can be ensured by holding assets in the form of short-term loans that can be easily liquidated as part of regular business operations. Additionally, by extending working capital loans, liquidity can be guaranteed since the inventory held by SACCOs would eventually be sold for cash.

Saunders and Cornett (2011) propose the implementation of prudent cash flow planning through the alignment of asset durations with the maturities of liabilities. In order for a company to maintain a positive cash flow, it is imperative that the maturity of its assets precedes the maturity of its liabilities. According to the Government of Kenya (2008), the SACCO Societies Act stipulates a requirement of 15%. The liquidity ratio is calculated by dividing the entire amount of cash and cash equivalents by the sum of short-term deposits and short-term liabilities. The ratio incentivizes SACCOS to maintain a high level of liquidity in order to effectively fulfill the daily financial needs of their members (Ruth, 2001).

According to Allen and Gale (2004), in situations when there are no financial shocks and the markets for aggregate risk are complete, they argue that there is no need for regulation as it cannot enhance the efficiency of the market equilibrium whereas Allen and Gale (2004), who argue that government intervention in controlling liquidity is significant only in the presence of aggregate shocks.

According to Saunders and Cornett (2011), it is advisable to engage in sensible cash flow planning by aligning the maturities of assets and liabilities. In order to mitigate risk, it is imperative for organizations to maintain a positive cash flow and ensure that the maturity of their assets precedes the maturity of their liabilities. The SASRA act promotes the implementation of a liquidity ratio of 15%. Divide the total amount of cash and cash equivalents by the sum of short-term deposits and short-term obligations to arrive at this ratio. The government of Kenya (2008) recommends that SACCOs keep a lot of cash on hand so that they can meet their financial commitments to their customers. This study examines the relevance of a certain theory in guiding SACCOS. The theory under consideration provides insights into the level of indebtedness

experienced by SACCOs, distinguishing between heavy and light debt burdens. Additionally, it sheds light on the financial trajectory of these organizations, determining if their financial status is improving or not.

According to the Government of Kenya (2008), SACCOs are encouraged to maintain a high level of liquidity in order to fulfill their obligations to their members. This study examines the relevance of the theory in guiding SACCOS by assessing their level of indebtedness, determining the severity of the debt burden, and evaluating the progress of their financial status. Hence, this theory pertains to the relationship between capital interest rates and the management of loan debtors variables, which was employed by the researcher in the course of the study.

2.2.2 Efficient Structure Theory

Modigliani and Miller created the theory under debate in 1950, using a capital theory framework to support the idea of capital structure irrelevancy. They argue that the market value of a firm is influenced not only by the risk associated with its investments, but also by its potential for future growth. The efficient structure theory, as proposed by Modigliani and Miller, assumes the absence of transaction costs and posits that both individuals and corporations can borrow at the same interest rate. The implementation of an efficient structure theory in financial institutions has been found to positively impact management and scale efficiency, resulting in increased concentration and subsequently leading to higher levels of profitability.

Demsetz (1973) posited an alternate elucidation about the relationship between market structure and performance, presenting the Efficiency Hypothesis as a proposed framework. This hypothesis posits that in the context of financial institutions, namely the SACCO sector, a SACCO that demonstrates superior operational efficiency

compared to its competitors will achieve higher profits due to reduced operational costs. The aforementioned financial institution possesses a significant portion of the market. As a result, disparities in efficiency give rise to an inequitable allocation of positions within the market and a significant consolidation. Given that market structure and performance are influenced by efficiency, the apparent correlation between these two factors may be deemed superficial.

Thoraneenitiyan (2010) categorizes bank efficiency research into two main branches: studies that investigate size and scope efficiency, and studies that investigate X-efficiency, also known as frontier efficiency. The X-efficiency hypothesis posits that banks that exhibit superior management and practices are able to enhance profitability and exercise effective cost control, hence bringing the bank closer to achieving best-practice standards. The scale-efficiency theory posits that certain banks are able to attain superior operational size, resulting in reduced costs. The reduction in costs is associated with an increase in growth and subsequent elevation in profits.

Berger (1995) classifies the efficiency hypothesis into two distinct hypotheses, namely x-efficiency (XE) and scale efficiency (SE) hypotheses. The x-efficiency hypothesis posits that financial institutions that possess efficient management and utilize advanced technologies experience reduced costs, ultimately leading to increased profitability. The greater the x-efficiency of banks, the more significant their market shares become and the higher the level of concentration. According to the efficiency hypothesis, disparities in performance between two organizations can be attributed to variations in scale efficiency rather than disparities in management efficiency. The present theory pertains to the management of loan defaulters and the variable of interest rate, which was employed in the study. This choice was chosen due to the fact that the profitability

and the return to the members are outcomes that stem from the decisions made by the management regarding loan debtors and the interest rate imposed.

2.2.3 Human Capital theory

The Human Capital Theory was created by Becker in 1962, with additional contributions from Jacob Mincer and Theodore Schultz (Bartocho, 2016). Becker created a theoretical framework to examine the impact of general training on employee performance and the broader acquisition of skills. According to Meichang, Wenzhong, and Dan (2017), the implementation of targeted training competencies has been found to improve the skill set of employees in their respective areas of work.

According to Bustinza, Vendrell-Herrero & Parry, (2016), the theory of human capital encompasses three essential components: a favorable working environment, investment in training, and the provision of progression possibilities. Becker also acknowledged the impact of both specific and general training on the level of burnout experienced by employees inside their individual firms. Furthermore, advocates of the human capital theory often argue that there exists a direct correlation between labor costs and the profitability of a business.

The notion posits that employees have a tendency to improve their abilities, knowledge, and productivity by consistently investing in training, education, and the acquisition of additional competences. According to Becker, it has been argued that investing in human capital can provide numerous benefits to organizations, as it can contribute to the improvement of employees' knowledge, health, and abilities (Chigozie & Onyia, 2018).

The hypothesis created by Theodore, as discussed in Coff and Raffiee's (2015) study, emphasizes the significance of organizational management leaders investing in education, job creation chances, and ethical behaviors. Furthermore, Schulz extended the principles of the theory to incorporate the importance of investing in human capital, such as education and training, as being more impactful than investing in physical capital. The proponents of this idea argue that education and training have the potential to enhance the productivity of workers.

Furthermore, Holden and Biddle (2017), proponents of the human capital theory, believe that investments in education and training provide greater returns and entail lower risks compared to investments in financial and physical capital. This paper examines the theoretical framework that elucidates the impact of human capital on the performance of SACCOS. Human capital is a crucial resource that encompasses the knowledge, individual capabilities, and skills possessed by the staff members of the SACCOs.

Chuang, Liu, and Chen (2015) stated in their study that human capital is enhanced by factors such as employees' educational attainment, work experience, and specific competencies. The study recognizes the importance of human capital in providing strategic insights that SACCOs can utilize to enhance their service delivery efficiency and effectiveness. The acquisition of explicit information plays a crucial role in enhancing the competitive advantage of an international organization. Within such an institution, the tactical competencies of individuals tend to differ, and the presence of explicit knowledge can have a favorable impact on the organization's competitive advantages.

In conclusion, Nyabuti, Chepkilot, and Zakayo (2016) assert that the primary driver of sustained competitive advantage, with regard to employee management, lies in recognizing the significance of human resource (HR). The capability and dedication of the human resource is an equally significant prerequisite, alongside human resource management. The process of formulating HR skills involves the acquisition and cultivation of knowledge pertaining to the human resources of a business. This hypothesis pertains to the capital adequacy variable, which will be employed in the study. This is because empowering individuals with greater knowledge, capabilities, and skills is crucial for the success of the SACCOS.

2.2.4 Pecking Order Theory

The pecking order concept was proposed by Myers (1984) and further developed by Myers and Majluf (1984). Given its widespread recognition, we can provide a succinct explanation. Assume a scenario wherein enterprises have access to three distinct channels of financial support, namely retained earnings, debt, and equity. There is no adverse selection concern associated with retained earnings. Equity is susceptible to significant adverse selection challenges, but debt experiences a relatively moderate adverse selection concern. From the perspective of an external investor, it might be argued that equity carries a higher level of risk compared to debt. Both have a negative impact.

Myers (1984) posits that organizations exhibit a preference for internal finance over external finance as a result of adverse selection. In situations where external funding is required, companies tend to favor debt over equity due to the comparatively reduced information costs involved with loan offerings. The issuance of equity is seldom. The authors Shyam-Sunder and Myers (1999) formulated a crucial testable prediction based

on the refinement of these notions. In order to address the financial deficit, it is typically advisable to provide an equal dollar-for-dollar adjustment in corporate debt. Consequently, when enterprises adhere to the pecking order theory, the regression analysis of net loan issuances against the financing deficit reveals a slope coefficient of unity.

Shyam-Sunder and Myers (1999) provides robust evidence in favor of this hypothesis, based on an analysis of a sample of 157 enterprises that exhibited uninterrupted trading activity from 1971 to 1989. This finding is both aesthetically pleasing and holds significant sway. The pecking order theory is presented as a concise empirical framework for understanding corporate leverage, which has a reasonable level of descriptive accuracy. Undoubtedly, the inclusion of 157 firms in the analysis represents a rather limited sample size when considering the entire population of publicly traded American firms. Hence, it is imperative to ascertain the broad applicability of the pecking order theory.

Shyam-Sunder and Myers (1999) examine the ascending order theory through the application of a regression test. In this analysis, the financial gap must be calculated using information from the company's financial accounts. Dividends, investments, shifts in working capital, and net internal cash flow all contribute to the monetary deficit. The introduction of the funding deficit variable can be considered a viable form of aggregation if the pecking order hypothesis is accepted as true. Each source of a financing gap is assumed to have an equal dollar-for-dollar effect on corporate debt, at least according to the pecking order idea.

Rajan and Zingales (1995) employ an alternative information set in order to incorporate corporate leverage into their analysis. Hence, it is of scholarly significance to examine the performance of the finance deficit inside a nested model that incorporates traditional components as well. The pecking order theory posits that the impact of other variables should be mitigated by the funding gap. If the gap in financing is merely one element among several that enterprises consider in making tradeoffs, then what remains is a more extended form of the trade-off theory.

Chirinko and Singha (2000) raise concerns with the interpretation of the regression test conducted by Shyam-Sunder and Myers (1999). Chirinko and Singha (year) demonstrate that the inclusion of equality considerations in the Shyam-Sunder and Myers test can introduce a certain level of negative bias. Assuming that firms adhere to the pecking order hypothesis, it is postulated that these firms issue a quantity of equity that aligns with empirical observations. In this instance, it is demonstrated that the estimated regression coefficient is 0.74, deviating from the expected value of one. The degree of bias exhibited is not inconsequential; yet, it remains insufficient to align the coefficient with the observed magnitudes of slope coefficients.

Donaldson (1961) conducted a study. On the contrary, it has been argued and supported that companies opt to adhere to the “financing hierarchy” as proposed by the pecking order theory (POT) owing to transaction costs. According to Zurigat (2009), these transaction costs encompass remuneration for the dealer facilitating the issuance, along with additional expenses such as legal, accounting, and printing costs, as well as registration fees and taxes. Donaldson (year) provided additional clarification on the subject, stating that companies that rely on internal financing encounter reduced or

negligible transaction costs in comparison to those who rely on external sources of funding. According to the theory of principal-agent relationships, organizations adopt a hierarchical structure in response to information asymmetry. This asymmetry emerges from the fact that the management of SACCOs possesses greater knowledge about investment prospects and the profitability of the business compared to the investors in the SACCO.

According to Myers (2001), external financing accounts for a relatively small share of capital formation, and the majority of external financing consists of debt rather than equity issuance. The importance of external money is often underestimated, although it frequently surpasses investments in terms of significance. Equity finance constitutes a substantial element of foreign financing. On average, the issuance of net stock is more prevalent than the issuance of net debt. One notable observation is that net stock issues have a stronger correlation with the financing deficit compared to net debt issues.According to the pecking order hypothesis, it is posited that management will provide financing for the activities of the SACCO without imposing control limits, in the event that the SACCO has sufficient internal money. Therefore, it is common practice to obtain short-term financing as the initial step, as it does not necessitate the provision of collateral. Subsequently, long-term debt is pursued, and finally, equity issue is considered (Karami, 2014). The concept of "POT" additionally suggests that external investors are cognizant of the debt and equity financing aspects pertaining to the SACCO. Therefore, SACCOs prioritize retained earnings as a more favorable means of financing compared to external funding options. The utilization of retained earnings is prioritized, although in cases where the SACCO has adequate retained earnings, it resorts to loan financing.The researcher further supports this idea due to its

correlation with capital sufficiency, loan default management, and interest rates applied to loans examined in the study.

2.3 Conceptual review

2.3.1 Management of loan debtors

Management of loan debtors is the process of organizing and controlling debt in way that minimizes financial risk and maximizes the ability to meet financial goals. It involves assessing one's debt situation, creating a plan to repay debts, and implementing strategies to prevent future debt-related problems (Tamplin 2023). While Kellye (2024), defined Debt management as a way to get your debt under control through financial planning and budgeting. The goal of a debt management plan is to lower your current debt and move toward eliminating it. This is helpful tool for releasing debt.

Effective debt management is essential for maintaining financial stability and preventing the negative consequences of excessive debt, such as bankruptcy, damaged credit scores, and increased stress levels. By successfully managing debt ,individual and organizations can improve their financial health, save money on interest payments and achieve long-term financial goals (Tamplin 2023).

According to Etoromat (2022) ,The study was important to managers of financial institutions and financial consultants since they will be able to discover areas to put more emphasis while giving financial advice to clients, gives insight to government and policy makers in their role in ministry of finance Trade and industry and not forgetting cooperatives on the need for financial education in all school based programs and Scholars and other academics will equally stand to benefit from added knowledge in

financial management and be able to identify research gaps for future studies. This study will assist the SACCO members in making rational decisions in reference to loan disbursements since the survival of the SACCO depends on how effectively and efficiently the loans are managed.

Mulinge (2019) explored the effect of credit risk management framework on deposit taking SACCOs' financial performance in Kenya. Mulinge concentrated on credit risk assessment, recovery processes, credit risk monitoring, and the main parameters affecting financial performance in SACCOs and found the presents of a positive correlation between credit risk appraisal, credit recovery and credit risk monitoring with financial performance. It evident that deposit-taking SACCOs should in the forefront of integrating proper credit management frameworks with the aim of enhancing their financial performance.

Heller and Truman (2017), in a recent study on the emerging experiences and risks in digital lending, note that most of the digital borrowing is done for consumption purposes which results in repayment using borrowed funds, reduced consumption and non-payment of other bills such as school fees. Within this population it is also found that debt cycling is high whereby the late payers go back for high-cost, short term loans that have high penalties that create more difficulties in paying. A study carried out by Totolo (2018), shows that majority of the borrowers from digital lenders identify fees related to late repayment as one of the major challenges experienced in digital credit. This illustrates that while penalties on late repayment could influence the debt recovery process, digital lenders need to make this information well understood by borrowers. A better understanding on the consequences of late repayment and default especially in

regards to penalties can help to reduce the high rates of late repayment and default experienced in the digital lending market.

In this study management of loan debtors will be measured using the credit policy handbook/manual which serves as a valuable resource in facilitating the process of loan recovery and implementation of internal protocols to assess and evaluate the credit limits of counterparts, hence ensuring effective management of credit risks. Moreover, in instances of loan default, appropriate actions are implemented to retrieve both principal sum and accrued interest.

2.3.2 Capital adequacy

Sacco Societies Act, 2008 defines Core Capital as fully paid-up members' shares, retained earnings, disclosed reserves, grants and donations all of which are not meant to be expended unless on liquidation of the Sacco society. Thus, Core Capital equals to fully paid-up members' share capital plus statutory reserves, retained earnings, disclosed reserves and grants/donations. On the other hand, Institutional capital equals core capital less the members' share capital i.e. Institutional capital refers to the portion of the core capital that belongs to the SACCO society as an institution such that no one member can individually lay claim on it.

Equity refers to the owners' funds invested in a business. It incorporates share capital, retained earnings and reserves. It's the core capital of a SACCO. Core capital means the fully paid-up members' shares, capital issued, disclosed reserves, retained earnings,

grants and donations all of which are not meant to be expended unless on liquidation of the SACCO society, (Republic of Kenya, 2008)

The Kenya's financial sector consists of the Deposit-taking institutions, the non-deposit taking institutions, the financial market infrastructure, the informal financial service providers and the Financial Regulators. The deposit-taking financial institutions segment consists on the one hand, of the Commercial Banks, the Mortgage Refinance Companies, and the Microfinance Banks which are all regulated by the CBK; and on the other hand, of the DT SACCOs which are regulated by SASRA. Commercial banking institutions continue to be the dominant segment of the deposit-taking financial sector of the economy followed by the SACCO subsector, and the Microfinance Banks in that order in terms of total assets, total deposits, as well as gross loans and advances. This study will focus on small –tiered deposit taking SACCOs that have been licensed by SASRA to carry out deposit taking business for the year 2020. They are 99 in number. The principal parameters for measuring performance of financial institutions such as SACCOs, that mobilize deposits and issue credit facilities include their total assets, total deposits, gross loans, allowance for loan losses and core capital. DT-SACCOs are categorized into three (3) categories based on their total asset sizes. These are the large-tiered DT-SACCOs whose total assets are in excess of Kshs 5 Billion; the medium-tiered DT-SACCOs whose total assets are between Kshs 1 Billion and Kshs 5 Billion; and the small-tiered DT-SACCOs whose total assets are below the Kshs 1 Billion threshold. (SASRA Annual supervision report ,2020). This study seeks to find out the relationship between capital structure and financial performance of small tiered DT- Saccos in Nairobi County in Kenya.

Chang, Wang, Lee, and La (2014) studied the relationship between financial structure and performance of non-financial companies listed on Ho Chi Minh Stock Exchange in Vietnam from 2007 to 2011. This period covers the time before, during and after the global economic crisis. The paper measured financial performance by ROA, ROE, and Tobin's Q (calculated by the market price of equity plus book value of liabilities divided by total assets) and MBVR (market to book value ratio). Firm size is statistically significant and positively related to ROA in all forms of capital structure. A negative relation exists between the ratio of fixed assets to total assets and ROA. The results of this study contradict the pecking order theory on preference of debt over equity.

Gathara (2019), observes that leverage, liquidity and owners' equity have positive and significant effect on financial performance and that the use of various components of financial structure jointly enhanced the financial structure's power to explain the variations in financial performance of firms listed in the Nairobi Securities Exchange. The focus of the study was on firms listed on the NSE, this study seeks to fill a contextual gap by focusing on the small tiered DTS .

Paminto, Setyadi and Sinaga (2016) conducted a study to analyze the effect of capital structure on profitability and firm value of oil palm plantation companies in Indonesia. The research revealed that capital structure negatively and significantly influences profitability and firm value. The study conceptualized capital structure in terms of debt-equity ratio. It failed to consider the impacts of liquidity and size of company on financial performance. The study revealed a conceptual and contextual gap which this study seeks to fill by studying the influence of capital structure on financial performance of small-tiered SACCOs in Kenya.

2.3.3 Interest rate charged

Interest rate risk is the current or prospective risk to earnings and capital arising from adverse movements in interest rates. The changes in interest rates affect a Sacco's earnings by altering its interest-sensitive income and expenses. Interest rate changes also affect the underlying value of Sacco's interest-bearing assets and liabilities through changes in the present value of future cash flows and in some cases the cash flows themselves (SASRA, 2015).

The potential impact of interest rates on financial performance has been a great concern of the policy makers in various financial institutions and bankers. The earnings of DTSs and other financial institutions are greatly affected by uncertain changes in interest rates. Therefore, interest risk comes as a result of exposing the financial institutions profitability to volatile interest rates. Hence DTSs have a great challenge since they provide financial services to the poor and take care of their costs while aiming at escaping bankruptcy (Mwangi, 2014).

The firm's financial performance is highly influenced with risk and growth. The market value is conditioned with the company's results; therefore, the company market value can be changed by the level of risk exposure (Appiah, 2011). Kariuki and Ngahu (2016) conducted a study on effect of interest rates on loan performance of Microfinance Institutions in Naivasha Sub-County, Kenya and concluded that there was a strong relationship between loan repayment and the interest rates charged by SACCOs. The study further revealed that the interest rates charged on the borrowed loan led to loan defaulting which in turn leads to loan nonperformance. Customers also default in loan

repayment because short term loans attract higher interest rates as compared to long term loans (Kariuki and Ngahu, 2016)

Ndegwa, Waweru and Huka (2016) conducted a study that sought to determine the influence of interest rate on financial performance of Micro Financial Institutions (MFIS) in Imenti North Sub- County, the results revealed that interest charged by MFIs significantly influenced their financial performance. To ensure uptake of loans by DTSs, the DTSs should charge interest rates within the range being charged by commercial banks.

This study found that the Sacco should actively engage the director in the development of strategies to address the effect of interest rate policies.Additionally Saccos utilizes past experiences to effectively navigate fluctuations in interest rates.

2.3.4 Sacco Financial Performance

Financial performance refers to the evaluation of the outcomes of a financial institution's strategies and activities in monetary terms. The firm's return on investment and return on assets (ROA) have been determined using calculations. This pertains to the domain of performance metrics concerning the capacity to generate revenue derived from the assets of a Savings and Credit Cooperative Organization (SACCO). (Gatuhu, 2013).

Financial Performance is a measure of how well firm use assets from its primary mode of business to generate revenues. It measures the financial health of an organisation.

The common indicators of financial performance are; profits, return on investment, return on assets, value added and margins among others. Financial performance guides management on the strategies and policies to adopt to improve sustainability of the organisation (Almazari, 2011).

Financial performance is the outcome of an organization's policies and procedures in monetary terms. Therefore, SACCOs' financial performance is a result of several activities undertaken by the management guided by the laid down loan policies. This is indicated by operating income, return on assets and earnings before interest and taxes, which are computed by comparing different items in financial position statement and the statement of comprehensive income, Nancy (2011).

Financial Performance in Deposit Taking SACCOs Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business to generate revenues. According to (Ombaka & Jagongo, 2018), the term is also used as a general measure of a firm's overall financial health over a given period. It is the results of many different activities undertaken by an organization. Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business to generate revenues. Financial performance measures how well a firm uses its assets to generate revenues (Mangesti, 2019). It evaluates the efficient and effective utilization of resources available to a firm aiming at maximizing capital returns of an organization.

According to Siminyu, Mukanzi & Musiega, (2016) Evaluating the financial performance of a business enables managers and decision-makers to measure the results

of business strategies and activities in objective and unbiased monetary terms. Prudent financial management can be argued to be the solid influencing factor on the shareholders and the investors' loyalty to ensure the ideal financial performance of SACCOs (Njenga & Jagongo, 2019).

Further, Orlando (2012) contends that dividends and rebates paid from SACCOs` surpluses to shareholders are indicators of growth of SACCOs` wealth. The SACCO surpluses results from accumulated loan interest, returns from investments, registration fees, fines and penalties imposed on members for various reasons. Financial performance in this study was measured by return on assets, return on investments, growth in number of members of the deposit taking SACCOs and dividend payout. 2.5 Critique of the Existing Literature.

Kahuthu (2016) in his study on the Impact of Prudential Regulation on Financial performance of Deposit Taking Savings and Credit Co-operative Societies in Kenya revealed that core capital positively influenced the financial performance of deposit taking SACCOs in Kenya. Results of the inferential statistics such as ANOVA showed that core capital has a major positive significance on the SACCO‟s financial performance. Barus et al (2017) concluded that capital adequacy influenced the financial performance of savings and credit societies in Kenya. Their findings showed the influence was positive and also showed the magnitude by which capital adequacy influenced the financial performance of savings and credit societies.

This study used management of loan debtors, capital adequacy and interest rate charged to measured financial performance and concluded that all the three variables have significant effects on the performance of Saccos in Nandi County.

2.4. Empirical Review

The study looks at previous studies on firm financial factors and Financial Performance.

2.4.1. Management of loan debtors and Financial Performance of SACCOS

Derban, Binner and Mullineux (2015) identifies the fundamental institutional factors affecting loan loss rates within the UK's Community Development Finance Institutions. The 16 CDFIs' institutional characteristics were examined and their impact on loan loss rates effectively assessed. of in the UK and assess their influence on the loan loss rates. Out of the 13 institutional characteristics analyzed, 8 were found to have a significant impact on loan repayment. It is concluded that one should take into account the borrower and institutional characteristics with the aim of improving loan repayment performance. The significance of these findings is in providing an assessment framework and point of reference.

In Nigeria, despite the growing prominence of Fintech companies such as Pay Later which controls a sizeable proportion of micro-loaning marketing, the common challenge is in managing a growing number of loan defaulters estimated to be about 20% (Greene, 2016). Customers seem not threatened by bad credit listing. Because of a big number of companies serving in this industry, customers always have another option if they are denied credit by one company. High levels of competition have made firms resort to not care about the credit ratings of customers, hence the consistent default rates (Lewis, 2016). The best test to loaning organizations has been the high pace of default in installments exacerbated by awful monetary circumstances. This powers them to bring about more use towards recuperation of the credits. Debt recovery is guided by certain guidelines that to some degree make it hard to gather the cash

coming about to the credit being discounted. Therefore, the vital accomplishment of the firm is undermined (Baloro, 2018).

Ngondo (2018) argues that the use of penalties on delayed debt payments has been used by financial institutions as part of their debt recovery strategies over the last few decades. Chava (2014), argues that penalties are considered to be a pro-active strategy since the borrower is made aware of the risks of paying penalties in the case of default or late repayment. Furthermore, he notes that the waiver of penalties and interests is used in encouraging payment.

According to Kamar and Ayuma (2016), the technique an institution will use significantly depends on the relationship it has with the borrower. Recovery of debt is especially expensive for the lender since they have to incur extra costs. Default or the inability of customers to service their debt can result in a partial or total loss of the sum lent to the counterparty and thus ultimately to the profitability of the institution (Walraven & Barry , 2015). This sets up the base to show the general danger that high risks posed to both creditors and savers requiring a more elaborate system of regulatory interventions in the banking sector.

However, the authors only look at the concept of risk management without divulging into the need for strategies that can be employed in debt recovery. A key requirement for effective debt management by fintechs is their ability to intelligently and efficiently manage customer credit lines. To reduce the exposure to bad debts and bankruptcies, fintechs must have good insights into customer financial strength, credit score history and the changing payment patterns. This essential for the firms to create a structure that is suitable for the kinds of penalties that can persuade their borrowers to pay their loans in line with the agreement set between the two parties (Kavassalis & Stieber, 2018).

According to Luoto et. al (2017) credit reference bureaus are important in a sense that they play a significant role in the collection and dissemination of credit histories of borrowers. David (2018) argues that credit reference bureaus are said to reduce default rates as borrowers seek to protect their "reputation collateral" by meeting their obligations in a timely manner. With the presence of the CRB there is strong motivation for clients to pay their loans. According to Hu et.al (2016) credit reports that consists of both positive and negative information help in building "reputation collateral "in much the same way as a pledge of physical collateral. In the long run, a bigger credit market and lower default rates. lead to lower interest rates, improved profitability and increased competitiveness. This however, indicates that listing defaulters with credit reference bureaus can only act as a strategy to encourage timely payment while it may have a negative effect on the recovery process.

According to Linnet (2015) study on loan defaulting on financial performance of SACCOs in Tharaka Nithi County, Kenya, the study concluded that loan defaulting positively and significantly affected financial performance. The SACCOs have tried to maintain the loan default rate at the lowest level to enable them maintain a health loan portfolio. This has positively affected the level of interest from loan revenue.

The majority of Kenyan research have primarily concentrated on the influence of credit risks management methods on SACCO financial performance and non-performing loans. Considering the influence that diverse factors have on financial performance of any organization, it is affirmative that notable research gap. So far, no much effort has been directed at the influence that loan collection policies and default management practices on SACCOs' financial performance, specifically in Tharaka Nithi County. This does not just affect the knowledge base regarding the influence on financial

performance of SACCOs, but presents lack of a clear framework of improving the overall effectiveness of the microfinance sector (Buluma, Kung'u, & Mungai, 2017).

Muthoni (2016) study found that majority of the SACCOs had adopted financial management practices that contribute to the performance of the SACCOs. Cash management policies have contributed to enhancing the liquidity of the SACCOs, ensuring loans are disbursed upon approval resulting to increase in profitability through the interest. The study also revealed that only a few SACCOs invested excess cash on marketable securities. The study found that most SACCOs have a credit management policy which is crucial in laying down guidelines and procedures on how to manage the variety of loan products offered by the SACCOs and minimize credit risk. Major findings also revealed that the SACCOs mainly used guarantee and members shareholding as securities to mitigate credit risk.

Kiprono, Petera, and Kepha (2019) state that the study found that the interest rate charged was a factor affecting the SACCOs' financial success. The research presents a challenge to SACCO management, urging them to carefully evaluate the operational costs imposed on its members in comparison to those of other financial institutions. This issue is identified as a significant factor affecting the financial success of SACCOs. The regular evaluation of operating costs is essential in SACCO operations, as it is contingent upon the current operational requirements and scale. The management has devoted significant focus to augmenting marketing efforts in order to enhance membership rates. However, it is imperative to consider the whole business environment in order to fully capitalize on these endeavors. This should encompass the range of services provided to clients, as well as the corresponding duration required to deliver these services.

2.4.2 Capital Adequacy and Financial Performance of SACCOS

In the USA, credit deposit SACCOs provide an intermediation service using client funds. SACCO failure would have a significant impact on institutional and retail consumers, which might have a variety of effects on both domestic and foreign markets. Because of the importance of the banking industry, it needs to be properly regulated in order to keep clients' trust. Ban capital, which serves as a protection against losses, is a crucial component of the regulatory framework. Undercapitalized financial institutions are likely to experience substantial excess costs during periods of difficult economic conditions (Naceur, Marton, & Roulet, 2018).

In Nigeria, one of the achievements in the financial industry has been the upward audit of the capital base of financial institutions. This supports banking operations by offering a buffer to absorb unforeseen misfortunes from its activities thus empowering the financial institutions to keep on working in a sound and practical manner while the issues are being settled or attended to. An ideal measurement of the capital strength of any financial institution the capital adequacy ratio, which is the amount of financial institution legally required capital expressed as a percentage of the risk-weighted assets. Prudential rubrics on capital adequacy sets out three significant components that determine a SACCOs capital adequacy; these are; exposure adjusted credit risks, banking activities market risks, and the structure and nature of capital held in supporting these exposures (Nestor, Leonard, & Okoye, 2017).

In Uganda, Muheebwa (2018) established the relationship between liquidity and financial performance of savings and credit cooperatives in Fort Portal. The study concluded that liquidity not only helps the deposit taking SACCOs to ensure that the business always has a reliable cash supply, but is also a powerful tool in determining

the financial health of future investments. The study recommended that deposit taking SACCOs should concentrate more on portfolio management in order to realize improved financial performance. While the study correctly underscored the importance of liquidity in SACCOs, there was no justification why Fort Portal was chosen as the area of study. Other factors like accessibility to credit in the money market, profile of the deposit taking SACCO and the business environment can influence liquidity

Research done by (Wang et al., 2016), that sought to evaluate the relationship between capital adequacy and financial performance of deposit taking savings and credit cooperative societies in Kenya. It used a sample of 103 DTSs that were randomly chosen and data collected from their financial statements, the results revealed that there exists a positive relationship between capital adequacy and an organizations financial performance. Thus as the capital adequacy increases so does the financial performance. It thus recommended that the regulator continues to enforce capital adequacy requirements.

Another study by (Wanyoike, & Kenyatta, 2015), examined the effects of credit scoring and credit administration on the financial performance of deposit taking Saccos in Nakuru East sub-County. The findings revealed that there was a strong association between credit scoring and credit administration with the financial performance of deposit taking Saccos. The study recommended that Saccos improve their credit scoring and credit administration for better financial performance.

In addition, the research findings by (Kahuthu, 2015) indicated that core capital and membership growth have a positive impact on the Saccos financial performance. Observations made by (Paudel, 2015) noted that there was a positive relationship between the determinants of the capital adequacy ratio in Nepalese cooperative

societies which were credit to deposit ratio, net interest margin, and the type of cooperative. On the other hand, there was a negative relationship of the asset utilization ratio, size and return on equity.

According to the study, financial stability enhances economic performance. The study concluded that SASRA was right in advocating for additional capital base for SACCO's. They recommended that SACCO's improve their liquidity, profitability, operating efficiency and total assets turnover if they must remain in business and meet the capitalization threshold SASRA (Kivuvo et al., 2014

Another study by (Kioko, 2016), concluded that SACCOs had benefited significantly from the capital adequacy regulations in various ways such as, managing credit risk, improved public confidence, providing a safety net for members' deposits, provision of operating capital, increased lending capacity, providing a base for future growth, and preventing insolvency. The study also noted that SACCOs had faced various challenges in complying with capital adequacy regulations. These were reduced pay-out on members' funds, recruitment of new members, restricted avenues for investment, and reduced lending capacity. The SACCOs had engaged in strategies to meet capital adequacy. Of these strategies, SACCOs found issuing new capital, increasing membership base, diversifying product base, adjusting dividend pay-out ratio, stricter credit rating, matching share contributions to loan amounts guaranteed and reduced payment periods to be most effective (Kioko, 2016). Wanjohi, & Njeru (2016), studied the influence of the level of capital adequacy on credit risk for deposit taking Saccos in Kenya and noted that, Capital adequacy as measured in terms of Capital base to Risk weighted assets, has a negative and statistically significant effect on the level of Credit risk of Deposit taking SACCOs in Kenya (Wanjohi et al., 2016)

In Kenya the main mandate of deposit taking savings and credit cooperatives is to mobilize savings and deposits, maximize shareholders saving returns, and participate in investment and wealth creation for the benefit of the shareholders (Chepkorir, Kemboi, & Bett, 2022). Due to its functions, Sacco's are expected to have adequate capital that will enable it to run its functions but this is not the case as Sacco's are struggling with problems of inadequate capital.

Kahuthu (2016) in his study on the Impact of Prudential Regulation on Financial performance of Deposit Taking Savings and Credit Co-operative Societies in Kenya revealed that core capital positively influenced the financial performance of deposit taking SACCOs in Kenya. Results of the inferential statistics such as ANOVA showed that core capital has a major positive significance on the SACCO‟s financial performance. Barus et al (2017) concluded that capital adequacy influenced the financial performance of savings and credit societies in Kenya. Their findings were explained by the regression results that showed the influence was positive and also showed the magnitude by which capital adequacy influenced the financial performance of savings and credit societies.

Odhiambo (2011) researched on relationship between working capital management and financial performance by deposit taking Saccos licensed in Nairobi County. Findings of the study indicated that efficient working capital management leads to better financial performance of a SACCO hence positive relationship existed between efficient working capital management and financial performance. Olando (2013) study looked at the assessment of financial practice as a determinant of growth of Sacco's wealth in Kenya, a case study of Meru County. This study used a comparative design in soliciting information among forty-four (44) Saccos. The research data methodology

tool used was a questionnaire and the questionnaires were distributed to the forty-four Saccos in the county. The study found out that Saccos which inadequately complied with their by-laws and did not have incomes from their investments were unable to adequately cover their costs. The study recommended that the government should review legal framework to ensure that institutional capital was used to grow Sacco's wealth. Ademba (2012) reported on cash management and stated that cash management was the most important item in the operations of a SACCO. He asserted that financial institutions should manage cash adequately to avoid panic withdrawals by depositors. The Saccos therefore should maintain cash and cash equivalents of 15% ratio to short term deposits and short-term liabilities, as provided by the SACCO societies Act in Kenya (GoK, 2008). However, Kenyan Saccos, capital is utilized for expansion programs and the rest utilized for loaning to members and hence not likely to draw the same conclusion made by Buch (2014). Thus, the assertion by Mckillop and Wilson (2014) that capital adequacy regulation is effective in safeguarding deposits and stability of financial system supports prudential regulations to Saccos. Kilonzi (2012) appreciated the fact that the eligible Saccos applied to SASRA (Sacco Societies Regulatory Authority), a government body for regulating Saccos for two reasons, namely: one to comply with the government regulations and two to benefit from the new confidence that public showed after Sacco legislation. For a SACCO to apply, it had to meet two conditions namely, presence of front office savings activity (FOSA) and registration certificate from the concerned ministry. The eligible Saccos were called deposit taking Saccos, mainly because the quasi-bank activities involved exchanging money across the counter

According to Alexander Mwanthi Ngui, Ambrose Jagongo (2017) core capital has a positive impact on the financial performance of DT-Saccos in Kenya. To ensure that

deposit taking societies consistently meet the capital adequacy ratios thereby safeguarding members' investments and enhance growth of the Sacco, the following recommendations would suffice; - The board and management of the deposit taking Saccos can devise ways of issuing additional capital to both new and existing members, Deposit taking societies would benefit a lot through adjusting their dividend payout ratios. A one percentage reduction of dividend payout would significantly improve the institutional capital of the Sacco, SASRA should come up with vetting criteria in recruitment of competent managers who can positively influence the strategy and direction of the Society towards increased retained earnings, SASRA can also enhance supervision of the Deposit taking Sacco's and increase penalties for noncompliance of the capital adequacy ratios.

2.4.3 Interest rate charged and Financial Performance of SACCOS

According to Faith (2016) Sacco's are able to advance loans at interest rates lower than those charged by other financial providers and are able to reach clients in areas that are unattractive to banks. Interest rate was found to affect financial performance of SACCOs: if interest rate is high disbursement of loan is low thus a decrease in profitability since loan uptake becomes low and loan repayment becomes high therefore dampening loan uptake by members. Therefore, interest rate on loans should be reviewed regularly to match competition and retain clients, and prevailing interest of other financial institution and central bank should be considered when drafting lending interest rate.

Kariuki and Ngahu (2016) conducted a study on effect of interest rates on loan performance of Microfinance Institutions in Naivasha Sub-County, Kenya. Using survey research design, he connoted that there was a strong relationship between loan

repayment and the interest rates charged by SACCOs. The study further revealed that the interest rates charged on the borrowed loan lead to loan defaulting which in turn leads to loan nonperformance. Customers also default in loan repayment because short term loans attract higher interest rates as compared to long term loans (Kariuki and Ngahu, 2016).

These finding concur to findings by Ndegwa, Waweru, and Huka (2016) that reported that interest charged by MFIs influenced their financial performance. However, the study by Ndegwa, Waweru, and Huka (2016) had a significant influence unlike the present study whose influence was not significant. This finding contradicted findings by Mwangi (2014) and Onyekachi and Okoye (2013) that revealed that there is a strong and significant relationship between lending rates and financial performance of MFIs and Nigeria deposit money banks respectively.

This finding agreed with findings by Kariuki and Ngahu (2016) that interest charged in finance institutions in Naivasha had an influence on loan repayment which further influenced financial performance of the MFIs. If the interest rate charged was higher, the level of loan default will be higher therefore poor financial performance. However, the study by Kariuki and Ngahu (2016) had a significant relationship unlike the current study. Therefore, interest rate charged by DTSs can determine whether they succeed financially or not.

According to James (2014), one of the factors that significantly impacts the financial performance of SACCOs is the management's approach to interest rates on loans provided to members, particularly in comparison to other financial institutions. This aspect has been identified as a primary obstacle to the financial success of SACCOs. It is advisable to conduct regular reviews of interest rates in accordance with the

prevailing market conditions. The management has placed significant emphasis on augmenting marketing efforts to enhance membership rates. However, it is imperative to recognize that this approach may yield limited benefits unless the broader business climate is taken into consideration. This should include the services offered to clients and the time taken to give these services.

It was also established in this study that the overall financial performance of SACCOs is greatly affected by the capping of interest rates. Loan lending policy was not established as big threat to the growth and expansion of SACCOs because this affects the profitability. It was established that Saving Mobilization was attached to enhancing shares Soi,Lelei &Omboi (2018).

2.5 Summary of Gaps from Empirical Literature

The table below gives the summary of Gaps from Empirical Literature outline under the following sub headings: The Researcher, Title, Research Design, and Findings.

Table 2.1: Summary of Gaps from Empirical Literature

Researcher	Title	Research Design	Findings	Gaps
Etoromat (2022)	Effect of Debt management literacy on financial performance of SACCOs in Kumi County.	Descriptive	There is a strong positive relationship between debt management literacy and financial performance of SACCOs	The study looked at Debt management literacy of Saccos.The current study will look at management of loan debtors of SACCOS.
Mulinge (2019)	effect of credit risk management framework on deposit taking SACCOs' financial performance in Kenya.	Descriptive	The findings indicated a positive correlation between credit risk appraisal, credit recovery and credit risk monitoring with financial performance.	The study focused on the effect of credit risk management framework on deposit taking SACCOS' alone but this study will focus on management of loan debtors in both credit and deposit taking SACCOS.
Njeri (2017)	investigate the factors that affect capital adequacy in deposit taking SACCOs in Kenya, a case study of Nairobi County.	descriptive and inferential	The effect of the liquidity ratios on capital adequacy measure (core capital to total deposit) was found to be positive in saccos in Nairobi Kenya	The study looked at the effect of the liquidity ratios on capital adequacy in Saccos. The current study will look at Capital adequacy as a variable in the study.
Kipsang (2020)	Effect of debt recovery strategies on loan	Descriptive	loan limit reduction has positive and significant	The study focused on the effect of debt recovery on

	performance of fintech companies in kenya		relationship on loan performance.	loan performance of companies in Kenya whereas this study focuses on management of loan debtors on financial performance
Alender and ambrose (2017)	Capital adequacy and financial performance of deposit taking savings and credit co-operative societies in Kenya	comparative	core capital has a positive impact on the financial performance of DT-Saccos in Kenya.	The focus was only the core capital of DT-Saccos
Ndegwa, Waweru and Huka (2016)	influence of interest rate on financial performance of Micro Financial Institutions (MFIS) in Imenti North Sub- County.	Descriptive survey	interest charged by MFIs significantly influenced their financial performance.	This study concentrated majorly on MFIs while this study will concentrate on SACCOs.
Kariuki and Ngahu (2016)	effect of interest rates on loan performance of Microfinance Institutions in Naivasha Sub-County, Kenya.	survey research design	There is a strong relationship between loan repayment and the interest rates charged by SACCOs.	The study focus was the Microfinance Institutions in Naivasha Sub County, Kenya.

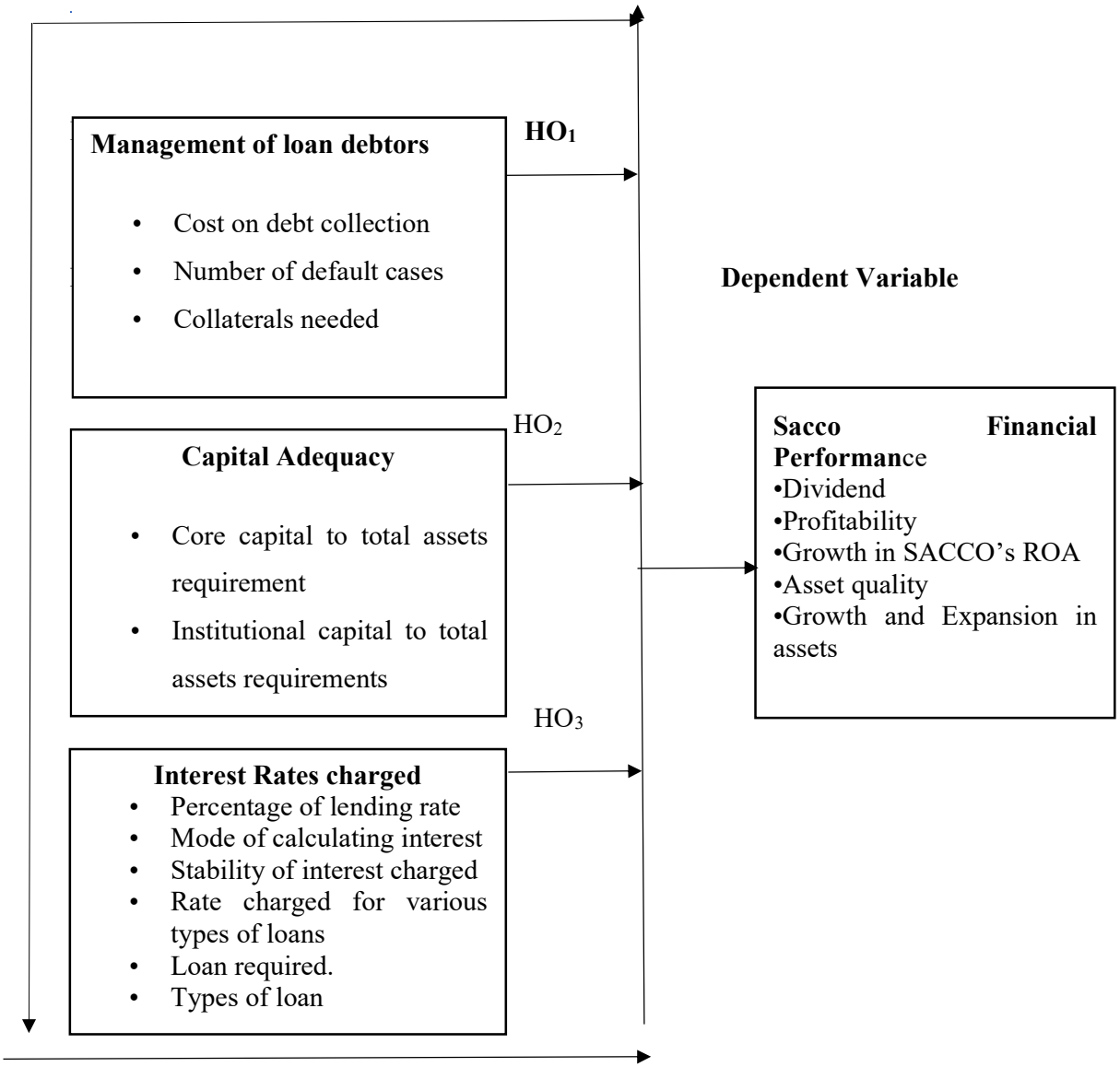
Source: Field Data (2023)

2.6 Conceptual Framework

The conceptual framework of the study examined the impact of financial determinants of firms on the performance of SACCOS in Nandi County. The independent factors considered in this study were the management of loan debtors, capital adequacy, and interest rate charged on customer's loan. The intervening variable examined was the financial performance of the SACCO. The hypothesis posited that the management of loan debtors, capital adequacy, and interest rates charged on customer's loan have an impact on the financial performance of SACCOs.

Independent variables

Firm Financial Factors



Source: Greene (2016), Barus (2017), Kariuki (2016) and Etoromats (2022)

Figure 2. 1: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter primarily addressed the design and methodology employed to address the research topic at hand. This encompassed aspects such as the population under investigation, the size of the sample, the methods employed for sampling, the tools utilized for data collection, and the techniques employed for data analysis.

3.2 Study Area

The research was carried out in Nandi County, located in the North Rift region of Kenya, with a land area of 2,884.4 square kilometers. The County is geographically next to Kakamega County in the western direction, Uasin Gishu County in the northeastern direction, Kericho County in the southeastern direction, Kisumu in the southern direction, and Vihiga County in the southwestern direction.From a geographical perspective, the distinctive jug-shaped configuration of Nandi County is defined by its boundaries. It is situated in proximity to the Equator in the southern direction, while its northern extent reaches a latitude of 0 34'N. The Western boundary of the area under consideration extends to a longitude of 34° 45' E, while the Eastern limit reaches a longitude of 35° 25' E.

3.3 Research Design

A research design refers to the way or plan to be followed when conducting the study (Babbie,2007).A research design generally entails the use of outline for collection, measurement and analysis of data. It guides the entire research process (Sreevidya & Sunitha 2011). The current study utilized a descriptive survey approach in order to

address the research inquiries. This design was preferred as it entails collecting data that describes the characteristics of a population, which in this case were firm financial factors, so as to establish how they affect financial performance of the targeted SACCOs in the research area.

3.4 Target population

Sekaran and Bougie (2011) define a population as the comprehensive collection of individuals, events, or objects that a researcher intends to explore. The term "population" denotes a comprehensive assemblage of humans, events, or objects that share a discernible common attribute. In essence, the concept of population refers to the entirety of entities that adhere to a specified set of criteria, as stated by Mugenda and Mugenda (2003). Hence, a target population of 112 employees was selected from all ten SACCOS located in Nandi County.

Table 3. 1: List of Active Registered Saccos Within Nandi County

	Sacco Name	Manager	Accountants	Credit Manager	Executive Board Member	Total Respondents
1	The Apple Sacco Society Ltd	2	6	2	2	12
2	Kolenge Tea Sacco Society Ltd	1	4	2	3	10
3	Skyline Sacco Society Ltd	2	5	1	3	11
4	Imarisha Sacco Society Ltd.	2	4	3	3	12
5	Boresha Sacco Society Ltd.	2	4	2	3	11
6	Trans Elite Sacco Society Ltd.	2	4	3	2	11
7	Kabiyet Sacco Society Ltd.	1	5	2	3	11
8	Baraton University Sacco Society Ltd.	2	3	3	3	11
9	Nandi Farmers Sacco Society Ltd	2	5	2	3	12
10	Chebokaptich Sacco Society Ltd	1	6	1	3	11
	Total	17	46	21	28	**112**

Source; Ministry of Cooperative Nandi County (2023)

3.5 Sampling and Sample size method

Chandran (2004) asserts that a sample is a method employed to select a subset of the population that sufficiently represents the entire population. Conversely, Gerstman (2003) contends that a sample is necessary due to the inadequacy of a study that lacks

precision, as it lacks the ability to reject a false null hypothesis, thereby resulting in a wastage of both time and financial resources. Hence, the researchers employed the simple random sampling procedure, followed by the application of the Krejcie and Morgan (1970) formula. The sample consisted of the Chief Executive Officers, accountants, credit managers, and executive board members of the ten SACCOS situated in Nandi County. These SACCOs were operational and in existence as of January 1, 2023.

$$S = \frac{x^2 NP(1-P)}{d2(N-1)+X2P(1-P)}$$

Where:

S is the desired sample size

$x^2$is the table value of chi-square for one degree of freedom at desires confidence level which is 1.96 ×1.96=3.847

N is the population size

P is the population proportion assumed to be 0.5

D is the degree of accuracy expressed as a proportion 0.05

$$S=\frac{3.8416\times112\times0.5(1-0.5)}{0.05\times0.05(112-1)+3.847\times0.5(1-0.5)} = 86.79$$

Therefore, simple random sampling technique was applied to select the respondents sfor the study.

3.6 Data Collection instruments

The primary data source was utilized to acquire the data, employing a random sampling technique to choose respondents. The main instrument for data collection was a questionnaire designed on a Likert scale. The document comprised a series of inquiries aimed at certain participants and served a clear goal, so establishing a predetermined objective in accordance with the study or research. The survey utilized in this research was segmented into three distinct sections. The initial section of the inquiry was to the demographic composition of the SACCO, encompassing aspects such as the SACCO's name, ownership classification, and time of operational existence. The subsequent section centered its attention on the independent factors, while the subsequent section was dedicated to examining the dependent variable.

The researcher individually administered questionnaires to all the SACCO Managers in Nandi County using a drop and pick procedure. The introductory letter from the researcher, along with the official letter from the university and the NACOSTI license, were included alongside the questionnaire distributed to all participants.

3.7 Measurements of variables

The reliability of a research instrument explains the extent to which the instrument yields similar results on repeated trials (Mugenda and Mugenda ,2003).A concept is operationally defined such that it can be measured by examining the behavioral dimensions, indicators, and qualities denoted by the concept. The utilization of these metrics enables the development of a data gathering instrument that possesses significant value and relevance. The variables exhibit operational characteristics as they conform to the criteria of being measured on interval and ratio scales.

Table 3. 2: Operationalization and measurement of study variables

Variable	Name of variable	Operationalization	Measurements
Dependent Variable	Financial performance of SACCOs	• Growth of dividend • Profitability • Asset quality • Growth of ROA • Growth and expansion in assets	Ratio and 5-point likert
Independent Variable	Management of loan debtors	• Cost on debt collection • Number of default cases • Collaterals needed	Ratio and 5-point likert
	Capital adequacy	• Core capital to total assets assets requirement • Institutional capital to total assets requirements	Ratio and 5-point likert
	Interest Rates Charged on customer's needs	• Percentage of lending rate • Mode of calculating interest • stability of interest • Rate charged for various types of loans • Loans • Loan required	Ratio and 5-point likert

Source; Research Data (2023)

3.8 Pilot testing

Piloting refers to the preliminary investigation conducted before to the main study, with the purpose of evaluating the efficacy of researchers' data gathering tools and methodologies (Mugenda & Mugenda, 2003). The present study was conducted at Kaimosi Sacco Society is located in the county of Vihiga. Before disseminating the questionnaire, the researcher provided the SACCO manager with an introduction letter from the university and a NACOSTI license in order to obtain permission to conduct the pilot study. Through a pilot test, this study sought to evaluate the dependability of the research equipment. According to Mugenda & Mugenda (2003), reliability is the

ability of a research instrument to generate consistent results across multiple trials. In addition, the pilot study evaluated the instruments' validity and reliability. (Mugenda & Mugenda, 2003) Validity refers to the quality of being logical, persuasive, and appearing correct to the reader. According to Polkinghorne (1988), the concept of validity in a theory alludes to outcomes that resemble or correspond with reality.

3.8.1 Validity and Reliability of research instrument

This part presents the validity and reliability of the research instruments that was used in this study

3.8.2 Validity of research instrument

Validity refers to the extent to which an instrument accurately assesses the construct it is intended to evaluate. Content validity is the extent to which an instrument evaluates or measures the concept of concentration comprehensively. Construct validity, on the other hand, refers to the extent to which an instrument accurately measures the intended concept (Kothari, 2004).The validation of research instruments was done through approval by the supervisors and academic lecturers who verified the face validity. Face validity is the extent to which a test purports to measure subjectivity. The study measured the content validity to identify the overall content to be represented for the instrument for proper validity checkup experts were involved in preparing the research in the instruments through pointing out ambiguity. Factor analysis was employed to test construct validity.

3.8.3 Reliability of research instrument

Reliability refers to the degree of consistency exhibited by the answer or outcomes. The concept of reliability refers to the degree to which a research instrument yields

consistent results when administered under same conditions (Bryman & Cramer, 2012). The research instrument's reliability was assessed by utilizing the internal constituency of the response in the study. The researchers evaluated the reliability of the Questionnaire by employing the Cronbach's Alpha correlation coefficient, which is a statistical measure that ranges from 0 to 1. George and Mallery (2003) suggest that a Cronbach's Alpha value exceeding 0.7 is considered acceptable for the purpose of evaluating reliability. A preliminary investigation was carried out in Vihiga County SACCO society limited in order to determine the dependability of the questionnaires utilized in this research.

3.9 Data Analysis and presentations

The data was subjected to analysis using descriptive and inferential statistics, utilizing the Scientific Package for Social Sciences (SPSS 23) software. Descriptive statistics comprises a variety of measurements, including frequencies, percentages, means, and standard deviations. Inferential statistics involves the application of Pearson's correlation, Simple Linear Regression, Multiple Linear Regression and Stepwise Linear Regression analysis. The regression models were used.

Model 1

$$Y= \beta 0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

Y = Financial performance of SACCOs

$\beta 0$ = Constant

X_1 = Management of loan debtors

X_2 = Capital adequacy

X_3=interest rate charged on financial performance

Y is the dependent variables

ε = Error Term

β2, β2, = Regression coefficients

Model 2

Simple linear regression formula

The formula for a simple linear regression is

$$y = \beta_0 + \beta_{1X} + \varepsilon$$

Where:

Y = Financial performance of SACCOs

β0 = Constant

β_1 = Parameter

ε = Error Term

X= independent variable

3.10 Assumptions of Regression

a) **Multivariate normality**

Parametric statistical techniques such as correlation, regression, analysis of variance, and t-test are occasionally based on the erroneous assumption of a Gaussian or normal distribution, a prevalent assumption found in the existing body of published research. The absence of this assumption renders the formation of a definitive conclusion unattainable. The Shapiro-Wilk technique assumes that the constancy of normality of test findings is maintained. Following the application of the Lilliefors correction, it has been observed that the Shapiro-Wilk test exhibits an increased level of statistical power. According to Ghasemi and Zahedias (2012), the Kolmogorov-Smirnov test is a commonly employed statistical method due to its heightened sensitivity towards extreme values. Additionally, the incorporation of the Lilliefors correction in this test reduces its conservative nature. The efficacy of this particular approach in evaluating normalcy is limited, and it is recommended to disregard it when estimating parameters from data, irrespective of the sample size. It is advisable to employ visual examination of data in order to confirm its normality, given that the Kolmogorov-Smirnov test exhibits a low level of statistical significance.

One of the fundamental assumptions behind linear regression is that the residuals, which represent the discrepancy between the observed and predicted values, should conform to a normal distribution. In order to evaluate this assumption, it is possible to generate a histogram of the residuals and conduct a visual examination to determine if there is any indication of normalcy. The normality of residuals can also be evaluated graphically using a normal probability plot. If the residuals do not exhibit a normal

distribution, it is advisable to explore alternative approaches for modeling the data, such as robust regression or generalized linear models.

If the condition of multivariate normality is not satisfied, there are various potential consequences for the analysis. One of the primary ramifications is the potential necessity to rectify the estimates of standard errors and confidence intervals pertaining to the parameters of the model. Consequently, this can have an impact on the outcomes of hypothesis testing and result in erroneous conclusions regarding the association between the dependent and independent variables. Additionally, the integrity of other statistical findings, such as the F-test used to determine the overall significance of the model, may also be affected.

b) Multicollinearity

This phenomenon pertains to the presence of strong correlations among two or more variables that are not reliant on each other. The factors encompassed in this study are access to credit, savings behavior, credit interest rates, and availability of financial information. The utilization of the variable inflation factor (VIF) in detecting multicollinearity allows for the assessment of the degree of correlation between the independent variables. According to Knock and Lynn(2012) its is defined a VIF=1/T.According to Kennedy (2008), a Variance Inflation Factor (VIF) value greater than 10 suggests the possible presence of multicollinearity. Conversely, a Variable Inflation Factor (VIP) value less than 10 indicates the presence of multicollinearity among the variables.In the event that multicollinearity is detected within the dataset, a potential solution to address this issue could involve centering the data. This entails subtracting the mean of each variable from its respective scores.Nevertheless, the most

straightforward approach to tackle the issue is to eliminate independent variables exhibiting large levels of Variance Inflation Factor (VIF).

b) Autocorrelation

Autocorrelation refers to the interdependence of sample or population observations or variables within spatial, temporal, or other dimensions. Autocorrelation can be found in situations where observations are collected across time, and its presence can be recognized by displaying the residuals of the model against time. The Durbin-Watson (DW) test can also be employed for testing. According to a commonly used heuristic, test statistics falling within the range of 1.5 to 2.5 can be considered indicative of a generally normal distribution. Any figure that falls outside of this specified range may be a cause for worry. ((White &Kenneth J, 1992)

d)Homoscedasticity

Homoscedasticity constitutes a fundamental concept within the context of linear regression. The term essentially denotes the equivalence of variances or the equality of scatter. This scenario pertains to a condition wherein the error term is constant across all the predictor factors or features. The error term, also known as the residual term, pertains to the presence of random fluctuations or disturbances within the association between the dependent and independent variables.

Residual scatter plots may be employed as a means of assessing the assumption of homoscedasticity. In the event when a discernible association between the residuals and expected values is absent, it is imperative to ensure the fulfillment of the assumption of homoscedasticity. In this research endeavor, the standardized residuals are graphically

represented against the expected values. The scatter plot depicting the link between residuals and predicted values reveals a uniform distribution of errors across the whole range of anticipated values. Furthermore, the analysis indicates the absence of a discernible association between the residuals and the predicted values.

3.11 Ethical consideration.

Prior to data collection, the researcher secured a letter of authorization from Masinde Muliro University of Science and Technology (MMUST). The participants were guaranteed secrecy, and no inducements or rewards were provided to compel them to submit comments. As a result of the sensitive nature of certain data gathered, it is incumbent upon the researcher to adhere to a high standard of ethical conduct when handling such material. The researcher took measures to guarantee that the report generated was of a general nature, devoid of any specific mention of organizations or individual clients. This precaution was taken to prevent potential unethical utilization of the study by others with the intention of disparaging a particular organization.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

The contents of the chapter encompass various aspects, such as the examination of reliability and validity through testing, the analysis of response rates, the evaluation of background information, the descriptive and inferential analyses of study variables, as well as the implementation of diagnostic testing.

4.1.1 Response Rate

The research was conducted by distributing 86 questionnaires to participants from the 10 SACCOS located in Nandi County. Out of the total number of questionnaires distributed, 82 respondents provided their responses. The data collection process involved obtaining responses from a total of 82 participants, representing a substantial proportion of 95.3% of the target population. This level of response rate is considered to be high, as indicated by Champion and Sear's (2009) findings. According to Champion and Sear (2009), an acceptable response rate is within the range of 49% to 59%. A response rate between 59% and 69% is considered good, while a response rate beyond 69% is classified as extremely high. The table below shows the response rate that was recorded.

Table 4.1: Response Rate of the Research Instruments

Response	Frequency	Response Rate (%)
Number of valid responses	82	95.3
Number of invalid responses	4	4.7
Total	86	100.00%

Source; Research Data (2023)

Given that the response rate of 93.4% on average, this was above the threshold of 69%, it can be classified as significantly high. The adequacy of the response rate was taken into consideration in the research, since it was deemed sufficient for generating accurate study findings that were representative of the target and sample populations. The high response rate was attained as a result of the effective administration strategy employed, specifically the drop and pick method. Additionally, the questionnaire was meticulously organized following a pilot study, resulting in enhanced clarity and comprehension, hence contributing to the high response rate.

4.2 Results on Reliability and Validity Testing

The study conducted an assessment of the questionnaire's reliability and validity in order to ensure its capacity to accurately collect data. In order to assess the reliability of the variables, Cronbach's alpha was utilized in the reliability tests. The obtained values ranged from 0.774 to 0.963. For the purposes of this thesis, a Cronbach's alpha statistic equal to or greater than 0.7 was deemed to indicate satisfactory reliability. The

test items were kept and utilized in the present investigation, thereby establishing their reliability, as indicated in Table 4.1.

Table 4.2: Reliability of Research Instruments

Variable	Number of Items	Cronbach Alpha	Comment
Management of loan debtors	11	0.774	Reliable
Capital adequacy	10	0.933	Reliable
Interest rate charged	8	0.925	Reliable
Performance	10	0.963	Reliable
Overall	**39**	**0.899**	Reliable

Source: Field Data (2023)

4.2.1 Validity

Principal component analysis (PCA) was utilized and the findings for the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) are presented in Table 4.2.

Table 4.3: KMO Table

Kaiser-Meyer-Olkin		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.882
Bartlett's Test of Sphericity	952.320	952.320
	45	45
	.000	.000

Source; Research Data (2023)

The results of a Kaiser-Meyer-Olkin (KMO) test, which assesses the sampling adequacy and appropriateness for factor analysis, are displayed in Table 4.2. According to Tanasă, Horomnea, and Ungureanu (2012), a KMO value falling within the range of 0.5 to 1.0 suggests that the application of factor analysis is suitable. The obtained KMO score of 0.822 indicates that factor analysis was suitable for the present research study. The Bartlett's test of sphericity revealed a strong correlation between the items utilized in the study, as indicated by a chi-square value of 952.320 and a p-value of .000. This level of significance, at a 99% confidence level, suggests that the independent and dependent variables were really connected.

Table 4.4: Factor Loadings for Performance initial extraction

	Performance of the SACCOs	**Initial Extraction**
1	The capital base of the deposit taking Sacco has consistently increased.	.786
2	The profits of the deposit taking Sacco have consistently grown	.742
4	The remuneration of employees of in my deposit taking Sacco is adequate.	.751
5	Shareholders value in my deposit taking Sacco has increased	.637
6	My deposit taking Sacco has been prompt in paying of its debts when due.	.733
7	The deposit taking Sacco maintains the cost of holding current assets as low as possible	.686
8	Interest on member's deposit has been increasing over the years.	.620
9	The Sacco membership has expanded over the years	.768
10	The dividend per share of the deposit taking Sacco has consistently increased	.916

Source; Research Data (2023)

Factor analysis was used in order to assess the appropriateness of the test items, particularly in cases where a variable exhibited many observed constructs. In the context of factor analysis, communalities indicate the degree to which a specific test item exhibits correlation with all other test items. The utilization of the varmax rotation method, initially introduced by Kaiser in 1958, aimed to mitigate the identification of factors that exert influence on all variables. This approach was adopted due to the prevalent assumption in construct validation that a straightforward (rotated) structure is present (Tanasă, Horomnea, & Ungureanu, 2012). This implies that each factor exhibits a limited number of substantial loadings. However, following the application of varimax rotation, each original variable becomes linked to one of the factors with a significant value. Consequently, the variance of the loadings is maximized, as illustrated in Table 4.4.

Table 4. 5:Rotated component matrix

	Performance of the SACCOs	**Component 1**
1	The capital base of the deposit taking Sacco has consistently increased.	.887
2	The profits of the deposit taking Sacco have consistently grown	.861
4	The remuneration of employees of in my deposit taking Sacco is adequate.	.867
5	Shareholders value in my deposit taking Sacco has increased	.798
6	My deposit taking Sacco has been prompt in paying of its debts when due.	.856
7	The deposit taking Sacco maintains the cost of holding current assets as low as possible	.829
8	Interest on member's deposit has been increasing over the years.	.788
9	The Sacco membership has expanded over the years	.876
10	The dividend per share of the deposit taking Sacco has consistently increased	.957

Source; Research Data (2023)

In this thesis, test items that exhibited factor loadings beyond the threshold of 0.4 were deemed to be of superior quality. The aforementioned factors were selected for subsequent investigation. According to Tabachnick and Fidell (2007), it is advisable to maintain factors in further analysis if their factor loadings above 0.40, while factors with loadings below this threshold should be excluded. The performance measurement framework consisted of 10 constructs, and all of the items inside these constructs underwent subsequent analysis.

Table 4.6: Test Items Dropped.

Variable	Composite measure	Test items dropped	Retained test items
Management of loan debtors	10	0	10
Capital adequacy	11	0	11
Interest rate charged	8	0	8
Performance	10	0	10

Source; Research Data (2023)

4.3 Respondents and Sacco Characteristics

The participants were requested to furnish details pertaining to their membership in the Sacco, the duration of the Sacco's existence, their gender, educational background, age, and the length of time they have been affiliated with the Sacco. The data that was analyzed yielded results which are presented in Table 4.6.

Table 4.7: Sacco Membership

Category	Frequency	Percentage
Farmers	61	74.4
Teachers	19	23.2
Civil servants	11	13.4
Business Persons	7	8.5
Health worker	3	3.7
Salaried	2	2.4
Bank clerks, Drivers, Engineers, Masons, Pilots & Police	1	1.2

Source; Research Data (2023)

Based on the findings presented in Table 4.6, it can be observed that a minority of respondents, specifically 1.2%, identified themselves as individuals employed in various occupations such as Bank clerks, Drivers, Engineers, Masons, Pilots, and Police. A slightly larger proportion, 13.4%, indicated that they were civil servants, while 8.5% reported being business persons. The majority of respondents, comprising 74.4%, identified themselves as farmers. Additionally, a small percentage of respondents, namely 3.7%, identified as health workers, while 2.4% reported being salaried employees. Lastly, 23.2% of the respondents identified themselves as teachers.

The Sacco group was seen to have a duration ranging from one to thirty-five years, with an average duration of 15.4 years. Based on the findings of the research, it was observed that 8.5% (1) of the saccos have been established for a duration of 0-9 years. Additionally, a majority of 63.4% (7) of the saccos have been in operation for a period of 10-19 years, while a significant proportion of 28.8% (3) of the saccos have been in existence for 20-29 years.

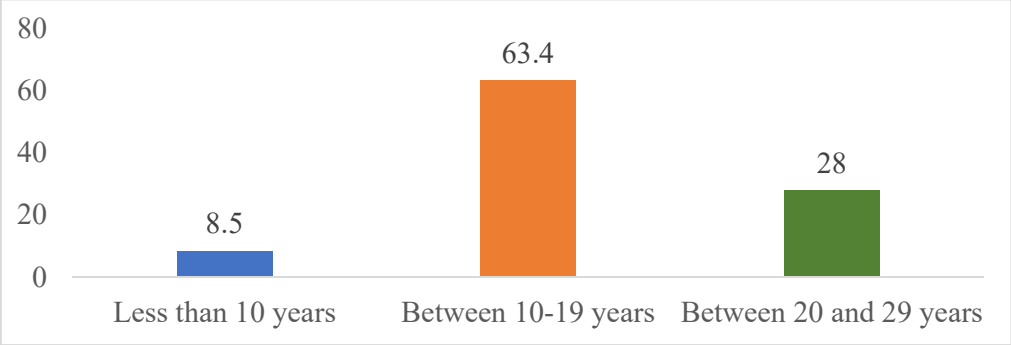


Figure 4.1:Duration of Saccos in Operation

According to the findings presented in Table 4.7, a total of 3 respondents, accounting for 3.7% of the sample, reported being members of the Sacco for a duration of less than 1 year. Additionally, 24 respondents, representing 29.3% of the sample, indicated a membership duration ranging from 1 to 3 years. Furthermore, a significant proportion of participants, specifically 32.9% (27 individuals), have maintained their membership in the Sacco for a duration ranging from 4 to 6 years. Additionally, 23.2% (19 individuals) have remained members for a period of 7 to 9 years, while another 11.0% (90 individuals) have sustained their membership for more than 9 years.

Table 4. 8: Duration of Respondents in Sacco

	Frequency	Percent
Less than 1 Year	3	3.7
1 -3 Years	24	29.3
4 to 6 years	27	32.9
7 to 9 years	19	23.2
More than 9 years	9	11.0
Total	**82**	**100.0**

Source; Research Data (2023)

The findings presented in Table 4.8 indicate that a total of 15 respondents, accounting for 18.3% of the sample, possessed a certificate. Additionally, 41 respondents,

representing 50.0% of the sample, held a diploma. Furthermore, 24 respondents, constituting 29.3% of the sample, possessed a degree, while a small proportion of 2 respondents, equivalent to 2.4% of the sample, had attained a master's level of education.

Based on the findings presented in Table 4.9, it can be observed that a proportion of 20.7% (17) of the individuals included in the study fell into the age range of 20-30 years. Furthermore, the majority of participants, accounting for 53.7% (44), were between the ages of 30-40 years. Similarly, an additional 20.7% (17) of the participants were found to be in the age range of 40-50 years. Lastly, a small percentage of 4.9% (4) consisted of individuals aged 50 years and above.

Table 4.9: Age of the Respondents

	Frequency	**Percent**
20-30	17	20.7
30-40	44	53.7
40-50	17	20.7
50 and above	4	4.9
Total	82	100.0

Source; Research Data (2023)

The results of the study as indicated in Figure 4.2 showed that, 61.0% (50) majority of the participants were male and 39.0% (32) were female

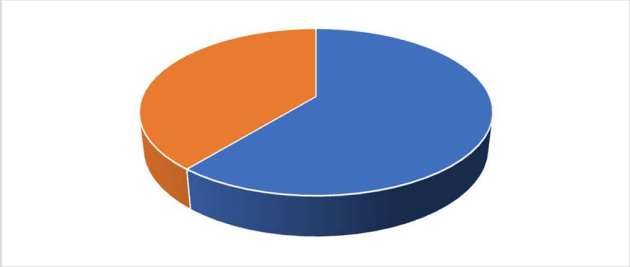


Figure 4. 2: Gender of the Respondents

Source: Field Data (2023)

4.4 Descriptive Statistics

The data in this study was subjected to quantitative analysis, enabling the development of descriptive statistics. Descriptive statistics were employed to derive inferences and establish generalizations regarding the relationship between the Independent Variables (IVs) and the Dependent Variable (DV). The study performed a comprehensive analysis of the data to ascertain the associations in alignment with the specified research objectives. The inquiries presented were in accordance with the objectives of the research. The items in the survey were assessed using a 5-point Likert Scale ranging from 1 to 5, with 1 representing “strongly” and 5 representing “strongly.” The first option represents disagreement as 1, whereas the second option represents disagreement as 2. The scale used to measure agreement in this context is as follows: Neutral corresponds to a very agreeable stance, Agree is represented by the number 4, and Strongly Agree is denoted by the number 5.

4.4.1 Descriptive Statistics for Management of loan debtors

The participants were requested to express their degree of concurrence on a scale ranging from strongly disagree (1) to strongly agree (5) in regard to eleven statements pertaining to the management of loan debtors. The findings are presented in Table 4.10.

Table 4. 10: Descriptive Statistics for Management of loan debtors

	Management Of Loan Debtors	5	4	3	2	1	M	S.D
1	In my organization we have regular reviews on collection policies to improve the state of credit management	42.7 (35)	41.5 (34)	11 (9)	1.2 (1)	3.7 (3)	4.18	0.94
2	In my organization we maintain a credit policy manual to help in debt recovery	19.5 (16)	63.4 (52)	11 (9)	1.2 (1)	4.9 (4)	3.91	0.89
3	In my organization we flexible repayment duration enhances loan repayment	39 (32)	47.6 (39)	7.3 (6)	3.7 (3)	2.4 (2)	4.17	0.90
4	In my organization we consider Client credit history and character during Credit Appraisal	32.9 (27)	53.7 (44)	9.8 (8)	1.2 (1)	2.4 (2)	4.13	0.83
5	In my organization we extension of Credit to borrower is according to customer profile	43.9 (36)	45.1 (37)	7.3 (6)	1.2 (1)	2.4 (2)	4.27	0.85
6	In my organization we maintain a control system of Customer loan repayments.	17.1 (14)	45.1 (37)	31.7 (26)	1.2 (1)	4.9 (4)	3.68	0.94
7	In my organization we conduct background check on clients before to ensure that they have the willingness and ability to repay a loan.	29.3 (24)	47.6 (39)	15.9 (13)	3.7 (3)	3.7 (3)	3.95	0.97
8	In my organization we cases of loan default, measures are taken to recover both the principal amount and interest	26.8 (22)	53.7 (44)	11 (9)	2.4 (2)	6.1 (5)	3.93	1.02
9	In my organization we have established Internal guidelines to approve and review counterparty credit limits	2.4 (2)	80.5 (66)	11 (9)	0 ()	6.1 (5)	3.73	0.79
10	In my organization we have competent personnel to carry out Credit appraisal	30.5 (25)	47.6 (39)	17.1 (14)	1.2 (1)	3.7 (3)	4.00	0.93
11	In my organization we consider Client credit history and character during Credit Appraisal	9.8 (8)	81.7 (67)	3.7 (3)	1.2 (1)	3.7 (3)	3.93	0.72

Source; Research Data (2023)

According to the findings of the research, 42.7% (35) of the respondents strongly agreed that in the organization they have regular reviews on collection procedures to improve the status of credit management and another 41.5% (34) agreed on the same statement. Furthermore, a total of 11% (9) of the participants had a neutral stance, while 1.2% (1) disagreed and 3.7% (3) strongly disagreed with the notion that their firm conducts regular evaluations of collection practices to enhance the efficacy of credit management. The organization's collection policies, aimed at enhancing credit management, do not undergo frequent evaluations despite having a mean of 4.18 and a negligible standard deviation of 0.94.

The findings of the study indicated that 19.5% (16) of the participants expressed strong agreement about the presence of a credit policy manual within their firm, which serves as a tool for facilitating debt recovery. Additionally, 63.4% (52) of the respondents agreed with this notion. Additionally, it was found that a total of 11% (9) of the participants expressed a neutral stance about the existence of a credit policy manual within their respective organizations, which serves as a tool to facilitate the process of debt recovery. In contrast, a small proportion of the participants, namely 1.2% (n=1), expressed disagreement, while an even smaller percentage, 4.9% (n=4), strongly disagreed with the aforementioned statement. The organization lacks a credit policy handbook for debt collection, as evidenced by a mean of 3.91 and a non-significant standard deviation of 0.89.

As depicted in the aforementioned table, a survey was conducted to gather responses from individuals regarding their perception of the impact of flexible repayment duration on loan repayment within the organization. The results indicate that 39% (32) of respondents strongly agreed with the notion, while 47.6% (39) agreed. A smaller

proportion of respondents, 7.8% (6), expressed a neutral stance. Conversely, 3.7% (3) disagreed with the idea, and 2.4% (2) strongly disagreed. The aforementioned statement yielded a mean score of 4.17, with a negligible standard deviation of 0.90. This suggests that the implementation of a flexible payback time inside the company positively influences the repayment of loans.

In relation to the consideration of client credit history and character throughout the Credit Appraisal process inside their organization, the results indicate that 32.9% (27) of respondents strongly agreed with the statement, 53.7% (44) agreed, 9.8% (8) expressed neutrality, 1.2% (1) disagreed, and 2.4% (2) severely disagreed. In their organizational credit appraisal process, the consideration of client credit history and character is deemed insignificant, as evidenced by a mean of 4.13 and a standard deviation of 0.83.

Moreover, in relation to the assertion that the business extends credit to borrowers based on their customer profile, it was found that 43.9% (36) of participants strongly agreed with this statement, while 45.1% (37) agreed with it. Additionally, 7.3% (6) of respondents expressed a neutral stance on this matter. In contrast, a mere 1.2% (1) of respondents expressed severe disagreement, while 2.4% (2) disagreed with the notion that their organization's extension of credit to borrowers aligns with customer profiles. Hence, based on a mean value of 4.27 and a negligible standard deviation of 0.85, it may be inferred that the firm does not grant credit extensions to borrowers in accordance with their customer profiles.

The data shown in the table indicates that 17.1% (14) of the participants expressed strong agreement, while an additional 45.1% (37) agreed, regarding the presence of a control system for managing customer loan repayments within their respective

organizations. Furthermore, it is worth noting that a significant proportion of the participants, specifically 31.7% (26 individuals), expressed a neutral stance towards the presence of a control system for customer loan repayments within their respective organizations. Additionally, a small minority, accounting for 1.2% (1 responder), disagreed with the existence of such a system. Moreover, an additional 4.9% (4 participants) strongly disagreed with the notion of maintaining a control system for customer loan repayments in their organizations. The firm under consideration does not implement a control system for client loan repayments, as evidenced by a mean of 3.68 and a statistically insignificant standard deviation of 0.94.

The claim is made that inside their organization, a thorough examination of clients' backgrounds is conducted prior to granting a loan, with the intention of verifying their capacity and willingness to return the borrowed funds. A total of 24 individuals, constituting 29.3%, expressed strong agreement with the statement. Additionally, 39 individuals, accounting for 47.6%, agreed with the statement. A total of 13 individuals, representing 15.9%, remained neutral in their response. Conversely, 3 individuals, making up 3.7%, disagreed with the statement, while an equal number of individuals, also 3.7%, expressed partial agreement. In a similar vein, the data reveals that the statement possessed a mean value of 3.95, accompanied by a negligible standard deviation of 0.97. These statistical measures suggest that the respondents expressed disagreement over the absence of background checks on clients within their firm, as a means to ascertain their capacity and willingness to repay loans.

Nevertheless, a significant proportion of the participants, specifically 26.8% (22 individuals), expressed strong agreement, while an additional 53.7% (44 individuals) agreed, regarding the implementation of steps within their respective organizations to

address instances of loan default. These efforts aim to facilitate the recovery of both the principal amount and the accrued interest. Furthermore, it was found that 11% (9) of the participants expressed a neutral stance, while 2.4% (2) opposed and an additional 6.1% (5) strongly disagreed with the notion that their respective organizations use efforts to recover both the main amount and interest in cases of loan default. In their organizational context, when faced with instances of loan default, appropriate actions are implemented to retrieve both the principal amount and the accrued interest. These actions are undertaken considering a mean value of 3.93 and a statistically significant standard deviation of 1.02.

Furthermore, a notable proportion of the participants, specifically 2.4% (2 individuals), expressed strong agreement, while an additional majority of 80.5% (66 individuals) concurred, indicating that within their respective organizations, they have implemented internal protocols for the validation and assessment of counterparty credit limitations. In contrast, a notable proportion of the respondents, specifically 11% (9 individuals), expressed a neutral stance regarding the existence of defined internal standards inside their respective organizations for the approval and review of counterparty credit limits. Additionally, a smaller percentage of respondents, specifically 6.1% (5 individuals), strongly disagreed with the presence of such guidelines. The organization in question has not yet implemented internal protocols for the approval and evaluation of counterparty credit limits, as evidenced by a mean value of 3.73 and a statistically insignificant standard deviation of 0.79.

However, a significant proportion of the respondents, specifically 30.5% (25 individuals), expressed strong agreement, while an additional 47.6% (39 individuals) agreed, regarding the presence of competent professionals inside their respective organizations to effectively conduct credit appraisal activities. Furthermore, it was

found that 17.1% (14) of the participants had a neutral stance, while 1.2% (1) disagreed and an additional 3.7% (3) strongly disagreed with the notion that their respective organizations have capable individuals for conducting credit appraisal. In their organization, the presence of qualified employees capable of conducting credit assessment is indicated by a mean of 4.00 and a negligible standard deviation of 0.93. In conclusion, a total of 9.8% (8) of the participants expressed strong agreement, while an additional 81.7% (67) indicated agreement with the notion that their respective organizations take into account the client's credit history and character during the credit appraisal process. Furthermore, a total of 3.7% (3) of the participants expressed a neutral stance, while 1.2% (1) disagreed and an additional 3.7% (3) strongly disagreed with the notion that their firm takes into account the client's credit history and character throughout the credit appraisal process. In their organizational credit appraisal process, the consideration of client credit history and character is deemed insignificant, as indicated by a mean of 3.93 and a standard deviation of 0.72.

4.4.2 Descriptive statistics for Capital adequacy

The data in this study was evaluated utilizing a quantitative approach, resulting in the generation of descriptive statistics. The descriptive statistics were utilized in order to draw findings and make generalizations pertaining to the association between capital sufficiency and performance. The participants were instructed to express their degree of agreement on a scale ranging from strongly disagree (1) to strongly agree (5) in relation to 10 propositions pertaining to capital sufficiency. The findings are presented in Table 4.11.

Table 4.11: Descriptive statistics for Capital adequacy

	Capital Adequacy Ratios	5	4	3	2	1	M	S.D
1	The enhancement of the Sacco's financial performance has been attributed to the observation of the core capital to total asset need.	28 (23)	56.1 (46)	12.2 (10)	2.4 (2)	1.2 (1)	4.07	0.782
2	The enhancement of financial performance in the Sacco can be attributed to the observation of the institutional capital to total asset need.	34.1 (28)	58.5 (48)	1.2 (1)	3.7 (3)	2.4 (2)	4.18	0.833
3	Capital adequacy requirements establish a risk reserve from the SACCO's profits to safeguard loss of capita	20.7 (17)	62.2 (51)	14.6 (12)	1.2 (1)	1.2 (1)	4.00	0.720
4	Our capital provides a cushion to fluctuations in earnings for us to continue with our operations throughout	19.5 (16)	58.5 (48)	11 (9)	8.5 (7)	2.4 (2)	3.84	0.923
5	The enhancement of financial performance in the Sacco can be attributed to the observation of the institutional capital to total asset need.	18.3 (15)	68.3 (56)	7.3 (6)	3.7 (3)	2.4 (2)	3.96	0.79
6	Observing the institutional capital to Members savings have improved the SACCO wealth	6.1 (5)	75.6 (62)	14.6 (12)	0 ()	3.7 (3)	3.80	0.71
7	Capital adequacy requirements provide the SACCO with large provision for debts that can be absorbed by the SACCO's capital	32.9 (27)	47.6 (39)	15.9 (13)	2.4 (2)	1.2 (1)	4.09	0.83
8	Observing the institutional capital of the SACCO has positively contributed to sufficient funds for members withdrawals	11 (9)	68.3 (56)	9.8 (8)	8.5 (7)	2.4 (2)	3.77	0.85
9	Capital adequacy requirements have protected our depositors as the SACCO expands its risk profile	6.1 (5)	75.6 (62)	13.4 (11)	2.4 (2)	2.4 (2)	3.80	0.69
10	Our core capital has enabled the SACCO to collect more deposits and lend more to the members	12.2 (10)	61 (50)	22 (18)	3.7 (3)	1.2 (1)	3.79	0.74

Source; Research Data (2023)

The research findings indicate that a notable fraction of the participants, particularly 28% (23 individuals), strongly agreed on the favorable influence of complying with the core capital to total asset requirement on the financial performance of the Sacco. Furthermore, a significant majority of 56.1% (46 participants) also indicated their concurrence with this assertion. Also, 12.2% (10) of the participants took a neutral position, 2.4% (2) disagreed, and 1.2% (1) strongly disagreed with the idea that sticking to the core capital to total asset requirement has improved the Sacco's financial success. The financial performance of the Sacco has not demonstrated any improvement, despite the adherence to the core capital to total asset requirement. This requirement has a mean value of 4.07 and a small standard deviation of 0.782.

The study's findings suggest that a notable proportion of the participants, precisely 34.1% (28), strongly agreed on the favorable influence of complying with the institutional capital to total asset requirement on the financial performance of the Sacco. Furthermore, a significant majority of 58.5% (48) of the participants concurred with this proposition. Furthermore, the study revealed that a mere 1.2% (1) of the respondents maintained a neutral position regarding the influence of complying with the institutional capital to total asset requirement on the financial performance of the Sacco. In contrast, a small percentage of participants, specifically 3.7% (3), indicated their disagreement, while an even smaller fraction, representing 2.4% (2), strongly voiced their dissatisfaction with the aforementioned assumption. Despite meeting the institutional capital to total asset requirement, the Sacco's financial performance has not exhibited any improvement. The mean value of the requirement is 4.18, with a minimal standard deviation of 0.833.

As illustrated in the aforementioned table, it is apparent that 20.7% (17) of the survey participants exhibited a strong inclination towards the belief that capital adequacy requirements play a crucial role in creating a reserve of funds from the profits of the SACCO. This reserve serves the purpose of safeguarding against potential capital losses. Moreover, a majority of the participants, specifically 62.2% (51), expressed agreement with the aforementioned assertion, although a smaller proportion, amounting to 14.6% (12), maintained a neutral stance. Conversely, a little proportion of 1.2% (1) expressed disagreement with the concept, but an equivalent number of 1.2% (1) strongly opposed it. The statement given above yielded an average score of 4.00, accompanied with a minimal standard deviation of 0.720. This suggests that the capital adequacy rules have not incorporated a risk reserve based on the profits of the SACCO to safeguard against potential capital loss.

In answer to the statement that our capital protects us from changes in earnings, 19% (16) of respondents strongly agreed, 58.5% (48) agreed, 11% (9) stayed neutral, 8.5% (7) disagreed, and 2.4% (2) strongly disagreed. Based on a mean value of 3.84 and a statistically insignificant standard deviation of 0.923, it may be inferred that the capital reserves in question do not provide an adequate cushion to address fluctuations in earnings, hence presenting obstacles to the long-term viability of our operational endeavors.

Furthermore, with regards to the claim that the improvement in the financial performance of the Sacco can be attributed to the adherence to the institutional capital to total asset requirement, the study revealed that 18.3% (15) of the respondents expressed strong agreement, 68.3% (56) expressed agreement, and 7.3% (6) remained neutral in their position. In contrast, a small proportion of the participants, namely 3

replies constituting 3.7%, indicated strong disagreement. Furthermore, it is worth noting that two participants, accounting for 2.4% of the total sample, expressed dissent towards the proposition that the Sacco's financial performance has been improved through adherence to the institutional capital to total asset criterion. Therefore, given a mean value of 3.96 and a statistically insignificant standard deviation of 0.793, it can be inferred that the implementation of the institutional capital to total asset requirement has not led to any noticeable improvement in the financial performance of the Sacco.

According to the tabulated data, it can be observed that 6.1% (5) of the participants exhibited a high level of agreement, while an additional 75.6% (62) showed agreement on the positive impact of institutional capital on the overall financial prosperity of the SACCO, as it pertains to the savings of its members. Moreover, the study revealed that a notable percentage of the participants, namely 14.6% (12 individuals), had a neutral perspective regarding the influence of observing institutional capital on the enhancement of SACCO wealth. Furthermore, a minority of participants, specifically 3.7% (3 individuals), expressed strong disagreement with the proposition that the presence of institutional capital has resulted in an improvement in the financial prosperity of SACCOs. The study reveals that there is no significant enhancement in the financial status of the SACCO due to the observation of the institutional capital to Members savings. The mean value of this observation is 3.80, with a standard deviation of 0.710.

The assertion suggests that the capital adequacy rules provide the SACCO with a significant allowance for debts that can be covered by its capital. A collective of 27 participants, accounting for 32.9% of the sample, exhibited a significant level of

concurrence with the given statement. Furthermore, a total of 39 participants, representing 47.6% of the sample, expressed their concurrence. A lower percentage of the sample, comprising particularly 13 individuals (15.9%), indicated a neutral position. In contrast, a small proportion of participants, specifically 2 persons (2.4%), indicated their disagreement, whereas a just 1 individual (1.2%) held a contrary viewpoint regarding the statement. Similarly, it can be noted that the aforementioned statement displayed a mean value of 4.09, coupled with a statistically significant standard deviation of 0.834. The statistical indicators indicate that the participants exhibited a lack of consensus regarding the proposition that capital adequacy rules provide the SACCO with a significant ability to absorb loans through its capital.

Nevertheless, a significant proportion of the participants, namely 11% (9 respondents), expressed strong agreement, while an additional 68.3% (56 respondents) concurred that the assessment of the SACCO's institutional capital has yielded a positive influence on the accessibility of funds for member withdrawals. Furthermore, the study revealed that a proportion of 9.8% (8) of the participants maintained a neutral perspective, while 8.5% (7) expressed disagreement. Moreover, an additional 2.4% (2) strongly disagreed with the proposition that the observation of the institutional capital of the SACCO has positively influenced the accessibility of funds for member withdrawals. The analysis of the institutional capital of the SACCO reveals a mean value of 3.77 and a standard deviation of 0.851. However, it is important to note that this difference is not statistically significant. Nevertheless, this discovery suggests that there is a positive influence on the availability of sufficient money for member withdrawals.

Moreover, a significant segment of the respondents, comprising 6.1% (n=5), demonstrated a high level of consensus, while a majority of 75.6% (n=62) concurred, with regards to the efficacy of capital adequacy standards in protecting the interests of

depositors during the SACCO's expansion of its risk exposure. In contrast, a subset of the participants, comprising 13.4% (11), had a neutral position about the effectiveness of capital adequacy criteria in protecting depositors when the SACCO expands its risk exposure. Moreover, a small proportion of 2.4% (2) expressed disagreement, although an equal proportion of 2.4% (2) strongly expressed disagreement with this concept. The implementation of capital adequacy standards has successfully ensured the protection of our depositors while the SACCO assesses its risk profile, as evidenced by the average value of 3.80 and the minimal standard deviation of 0.693.

In summary, it can be concluded that 12.2% (10) of the participants strongly agreed, and an additional 61% (50) agreed that the existence of core capital has played a significant role in enabling the SACCO to enhance its deposit mobilization and extend its lending operations to its members. Moreover, the study revealed that 22% (18) of the participants maintained a neutral position, but 3.7% (3) expressed opposition, and an additional 1.2% (1) strongly disagreed with the proposition that their core capital has effectively supported the augmentation of deposit collection and lending operations inside the SACCOs. The core capital of the SACCOs, with an average value of 3.79 and a minimal standard deviation of 0.749, has not resulted in a growth in the collection of deposits and lending activities among its members.

4.4.3 Descriptive statistics for Interest rate charged

The data in this study was examined utilizing a quantitative technique, which involved the generation of descriptive statistics. The descriptive data were utilized to draw findings and make generalizations about the association between the interest rate applied and the performance. The participants were requested to express their degree of agreement on a scale ranging from strongly disagree (1) to strongly agree (5) with

respect to seven statements pertaining to the interest rate applied. The findings are presented in Table 4.12.

Table 4.12: Descriptive Results for Interest rate charged

	Interest Rate Charged	5	4	3	2	1	M	S.D
1	Our Sacco includes stakeholders in the development of the sensitivity to interest rate policies.	46.3 (38)	40.2 (33)	6.1 (5)	2.4 (2)	4.9 (4)	4.21	1.02
2	The director of our Sacco is involved in the formulation of the sensitivity to interest rate policies.	13.4 (11)	62.2 (51)	17.1 (14)	3.7 (3)	3.7 (3)	3.78	0.86
3	Our Sacco works with the regulator to develop the sensitivity to interest rate regulations.	37.8 (31)	46.3 (38)	8.5 (7)	2.4 (2)	4.9 (4)	4.10	1.00
4	In the last two years, our Sacco has used the prior obstacles to adjust the average rate of interest charged on loans to members.	23.2 (19)	57.3 (47)	11 (9)	4.9 (4)	3.7 (3)	3.91	0.93
5	The interest rate charged is significantly lower when compared to other financial institutions in the county.	18.3 (15)	48.8 (40)	24.4 (20)	3.7 (3)	4.9 (4)	3.72	0.97
6	The interest rate paid by your SACCO has an impact on its financial performance.	11 (9)	40.2 (33)	37.8 (31)	6.1 (5)	4.9 (4)	3.46	0.95
7	Inflation has had a significant impact on our Sacco performance during the previous five years.	15.9 (13)	46.3 (38)	25.6 (21)	7.3 (6)	4.9 (4)	3.61	1.00
8	Our Sacco includes stakeholders in the development of the sensitivity to interest rate policies.	23.2 (19)	46.3 (38)	15.9 (13)	8.5 (7)	6.1 (5)	3.72	1.10

Source; Research Data (2023)

Based on the research findings, it was observed that 46.3% (38) of the respondents exhibited a high agreement towards the involvement of stakeholders in the formulation of sensitivity to interest rate policies within their Sacco. Additionally, another 40.2% (33) of the respondents expressed agreement towards the aforementioned statement. Furthermore, a total of 6.1% (n=5) of the participants expressed a neutral stance, while 2.4% (n=2) disagreed and 4.9% (n=4) strongly disagreed with the notion that their

Sacco effectively engages stakeholders in the process of establishing policies related to interest rates. The Sacco, characterized by a mean of 4.21 and a negligible standard deviation of 1.02, actively engages stakeholders in the development of strategies that are responsive to interest rate policy.

The findings of the study indicate that a significant proportion of the respondents, specifically 13.4% (11 individuals), expressed a strong agreement with the involvement of their Sacco's director in the development of sensitivity to interest rate regulations. Additionally, a majority of 62.2% (51 individuals) also agreed with this notion. Additionally, a total of 14 respondents, accounting for 17.1% of the sample, expressed a neutral stance on the involvement of the director in defining the sensitivity to interest rate policies within their Sacco. In contrast, a small proportion of the respondents, namely 3.7% (3), expressed disagreement with the aforementioned assertion, with an additional 3.7% (3) strongly disagreeing. The Sacco, characterized by a mean of 3.78 and a negligible standard deviation of 0.86, incorporates the director in the development of sensitivity to interest rate policies.

As illustrated in the aforementioned table, a total of 31 respondents, accounting for 37.8% of the survey participants, indicated a high agreement with regards to their Sacco's involvement with the regulator in the development of policies pertaining to interest rate sensitivity. In addition, 46.3% of respondents (38) agreed with this idea, whereas 8.5% of respondents (7) disagreed. In contrast, a minority of respondents, namely 2.4% (2), expressed disagreement, while 4.9% (4) strongly disagreed with the inclusion of the regulator in the development of policies related to interest rate sensitivity within their individual Saccos. The provided statement demonstrates a mean score of 4.10 and a significant standard deviation of 1.90, suggesting the influence of

the regulator in influencing the responsiveness to interest rate policies within their Sacco.

In relation to the claim that their Sacco adeptly adjusts to changes in interest rates by drawing from past encounters, it was discovered that 23.2% (19) of participants strongly concurred with the statement, 57.3% (47) concurred, 11% (9) maintained a neutral stance, 4.9% (4) disagreed, and 3.7% (3) severely disagreed. The Sacco under consideration, with a mean of 3.91 and a minimal standard deviation of 0.93, does not use previous challenges as a foundation for adjusting to changes in interest rates.

Furthermore, with regards to the claim concerning the average interest rate applied to loans provided to individuals over the past two years, it was noted that 18.3% (15) of the participants strongly agreed, while 48.8% (40) expressed agreement, and 24.4% (20) of the respondents maintained a neutral stance on the issue. In contrast, a small proportion of respondents, namely 3 individuals or 3.7%, expressed severe disagreement, while 4 respondents, accounting for 4.9%, held a dissenting view regarding the assertion that the mean interest rate applied to loans provided to members in the preceding 24 months. Therefore, with a mean value of 3.72 and a minimal standard deviation of 0.97, it may be inferred that the participants exhibited disagreement over the average interest rate applied to loans extended to members during the preceding two-year period.

According to the tabulated data, it can be observed that 11% (9) of the respondents exhibited a high level of agreement, although an additional 40.2% (33) concurred that the interest rates provided by the institution are comparatively more advantageous in comparison to other financial entities within the locality. Furthermore, the research revealed that a notable segment of the participants, namely 37.8% (31), exhibited a

neutral perspective about the interest rates imposed by the financial institution. Moreover, a minority of participants, namely 6.1% (5), expressed dissent towards the proposition that the interest rates offered by the institution are more favorable compared to those of other financial establishments within the county. Likewise, a proportion of 4.9% (4) of the participants expressed significant disagreement with the aforementioned remark. The interest rate, with a mean of 3.46 and a standard deviation of 0.95, does not demonstrate a significant enhancement in comparison to the interest rates provided by other financial institutions within the county.

The theory suggests that the financial performance of a Savings and Credit Cooperative Society (SACCO) is impacted by the interest rate it levies on its members. The survey results indicate that 15.9% (13) of the participants expressed strong agreement, 46.3% (38) expressed agreement, 25.6% (21) remained neutral, and 7.3% (6) expressed disagreement with the given statement. Furthermore, a total of 4.9% (4) of the participants conveyed their dissent. Similarly, the analysis of the data indicated that the statement displayed a mean value of 3.61, together with a standard deviation of 1.00 that was found to be statistically insignificant. The results of this study indicate that the participants showed discord in relation to the influence of the interest rates paid by the SACCO on its financial performance.

In summary, a notable segment of the participants, precisely 23.2% (19), exhibited a high level of concurrence, while an additional 46.3% (38) displayed agreement, about the profound influence of inflation on the operational efficacy of our Sacco throughout the preceding five-year period. Moreover, a significant percentage of the participants, precisely 15.9% (13), exhibited a neutral perspective regarding the influence of inflation on the performance of our Sacco throughout the previous five-year period.

Furthermore, a total of 8.5% (7) of the participants expressed their disagreement, and a further 6.1% (5) strongly disagreed with the proposition that inflation has had a substantial impact on the performance of our Sacco. The Sacco's performance has been notably influenced by inflation levels over the course of the previous five years, as indicated by a mean inflation rate of 3.72 and a standard deviation of 1.10.

4.4.4 Descriptive statistics for Performance

The participants were requested to express their degree of agreement on a scale ranging from strongly disagree (1) to strongly agree (5) in respect to the performance of the organization. The findings are presented in Table 4.13.

Table 4.13: Descriptive statistics for Organizational Performance

	Performance of the SACCOs	5	4	3	2	1	M	S. D
1	The capital base of the deposit taking Sacco has consistently increased.	50 (41)	35.4 (29)	4.9 (4)	4.9 (4)	4.9 (4)	4.21	1.07
2	The profits of the deposit taking Sacco have consistently grown	37.8 (31)	46.3 (38)	6.1 (5)	3.7 (3)	6.1 (5)	4.06	1.07
4	The remuneration of employees of in my deposit taking Sacco is adequate.	48.8 (40)	41.5 (34)	2.4 (2)	2.4 (2)	4.9 (4)	4.27	0.99
5	Shareholders value in my deposit taking Sacco has increased	40.2 (33)	41.5 (34)	9.8 (8)	3.7 (3)	4.9 (4)	4.09	1.04
6	My deposit taking Sacco has been prompt in paying of its debts when due.	36.6 (30)	48.8 (40)	4.9 (4)	4.9 (4)	4.9 (4)	4.07	1.03
7	The deposit taking Sacco maintains the cost of holding current assets as low as possible	20.7 (17)	46.3 (38)	24.4 (20)	2.4 (2)	6.1 (5)	3.73	1.02
8	Interest on member's deposit has been increasing over the years.	31.7 (26)	36.6 (30)	20.7 (17)	4.9 (4)	6.1 (5)	3.83	1.12
9	The Sacco membership has expanded over the years	39 (32)	43.9 (36)	8.5 (7)	3.7 (3)	4.9 (4)	4.09	1.03
10	The dividend per share of the deposit taking Sacco has consistently increased	26.8 (22)	63.4 (52)	1.2 (1)	3.7 (3)	4.9 (4)	4.04	0.94

Source; Research Data (2023)

Based on the research findings, it was observed that a significant proportion of the respondents, specifically 50% (41 individuals), expressed a strong agreement on the consistent growth of the capital base of the deposit taking Sacco. Additionally, an additional 35.4% (29 individuals) also expressed agreement with this statement. Furthermore, a total of 4.9% (n=4) of the participants expressed a neutral stance, whereas an equal percentage of 4.9% (n=4) objected and severely disagreed with the notion that the deposit taking Sacco's capital base had exhibited steady growth. The deposit taking Sacco has demonstrated a constant increase in its capital base, as seen by a mean value of 4.21 and a substantial standard deviation of 1.07.

The findings of the study indicated that a significant proportion of the participants, specifically 37.8% (31 individuals), expressed a strong agreement on the consistent growth of profits in the deposit taking Sacco. Additionally, 46.3% (38 individuals) also agreed with this statement. Additionally, it was found that a neutral stance on the steady growth of profits in the deposit taking Sacco was expressed by 6.1% (5) of the respondents. In contrast, a minority of respondents, namely 3.7% (3 individuals), expressed disagreement, while an even smaller proportion, 6.1% (5 individuals), strongly disagreed with the aforementioned assumption. The deposit taking Sacco has demonstrated constant growth in earnings, as seen by a mean of 4.06 and a substantial standard deviation of 1.07.

As depicted in the aforementioned table, among the survey respondents, 48.8% (40) expressed a strong agreement with the adequacy of employee remuneration in my deposit-taking Sacco. Additionally, 41.5% (34) indicated agreement, 2.4% (2) remained neutral, 2.4% (2) disagreed, and 4.9% (4) strongly disagreed with the notion that employee remuneration in my deposit-taking Sacco is adequate. The

aforementioned statement obtained a mean score of 4.27, with a negligible standard deviation of 0.99, indicating that the compensation provided to staff inside my deposit-taking Sacco is deemed satisfactory.

In response to the statement regarding the increase in shareholders' value in my deposit taking Sacco, it was found that 40.2% (33) of the respondents strongly agreed with the statement, 41.5% (34) agreed, 9.8% (8) remained neutral, 3.7% (3) disagreed, and 4.9% (4) severely disagreed with the statement. The growth in shareholders' value within my deposit-taking Sacco is attributed to a significant standard deviation of 1.04, coupled with a mean of 4.09.

Moreover, in regards to the assertion that the deposit-taking Sacco has always fulfilled its debt obligations in a timely manner, it was found that 36.6% (30) of the participants strongly agreed, 48.8% (40) agreed, and 4.9% (4) remained neutral. On the contrary, a total of 4.9% (4) of the respondents expressed severe disagreement, specifically in relation to their deposit taking Sacco's promptness in paying off its debts when they are due. Hence, based on a mean value of 4.07 and a notable standard deviation of 1.03, it can be inferred that the deposit taking Sacco has demonstrated a commendable level of timeliness in meeting its financial obligations.

The data shown in the table indicates that a significant proportion of the respondents, specifically 20.7% (17 individuals), expressed strong agreement, while an additional 46.3% (38 individuals) expressed agreement, regarding the deposit taking Sacco's ability to effectively minimize the expenses associated with retaining current assets. Furthermore, it is worth noting that 24.4% (20) of the participants had a neutral stance, while 2.4% (2) opposed and an additional 6.1% (5) strongly disagreed with the notion that the deposit-taking Sacco effectively minimizes the expenses associated with

maintaining current assets. The deposit-taking Sacco effectively minimizes the cost of retaining current assets, as seen by its mean of 3.73 and considerable standard deviation of 1.02.

Regarding the claim that interest on members' deposits has been seeing a rise over time, it was found that 31.7% (26) of the participants strongly agreed, 36.6% (30) agreed, 20.7% (17) remained neutral, 4.9% (4) disagreed, and 6.1% (5) expressed their disagreement with the statement. In a similar vein, the data analysis revealed that the mean value of the statement was 3.83, accompanied by a statistically significant standard deviation of 1.12. These findings suggest that the respondents expressed a disagreement about the notion that interest on member's deposit has been experiencing an upward trend over the course of time.

Nevertheless, a significant proportion of the participants, specifically 39% (32 individuals), expressed strong agreement, while an additional 43.9% (36 individuals) concurred, indicating that the Sacco membership had really witnessed growth throughout the years. Furthermore, it was found that 8.5% (7) of the participants had a neutral stance, while 3.7% (3) opposed and an additional 4.9% (4) strongly disagreed with the notion that the Sacco membership has grown over time. The Sacco membership has experienced growth over the years, as evidenced by a mean of 4.09 and a statistically significant standard deviation of 1.03.

In conclusion, a total of 26.8% (22) of the participants expressed strong agreement, while an additional 63.4% (52) indicated agreement with the constant increase in the dividend per share of the deposit taking Sacco. Furthermore, a small proportion of the participants, specifically 1.2% (1), expressed a neutral stance about the consistency of the deposit taking Sacco's dividend per share. In contrast, 3.7% (3) disagreed, and an additional 4.9% (4) strongly disagreed with the notion that the dividend per share has

regularly increased. The dividend per share of the deposit taking Sacco has had inconsistent growth, as indicated by a mean value of 4.04 and a negligible standard deviation of 0.94.

4.5 Pearson Correlation Analysis

The results of the correlation coefficient (r) are displayed in Table 4.14 through the use of Pearson correlation analysis. This statistical method calculates the direction (positive/negative) and magnitude (ranging from -1 to +1) of the association between two continuous or ratio/scale variables.

Table 4.14: Multiple Correlation Matrix

		MLD	CA	IRC	FP
MLD: Management of loan debtors	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	82			
CA: Capital adequacy	Pearson Correlation	.717**	1		
	Sig. (2-tailed)	.000			
	N	82	82		
IRC: Interest rate charged	Pearson Correlation	.603**	.412**	1	
	Sig. (2-tailed)	.000	.000		
	N	82	82	82	
FP: Performance	Pearson Correlation	.740**	.654**	.563**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	82	82	82	82

Source; Research Data (2023)

Based on the correlation analysis provided in Table 4.10, there is a positive link observed between the management of loan debtors and performance. The coefficient of correlation was found to be 0.740, demonstrating statistical significance at a 95% confidence level, as evidenced by a p-value below 0.05. Consequently, the implementation of more effective strategies for managing loan debtors would likely

yield positive outcomes in terms of the overall performance of SACCOS in Nandi County. This discovery is consistent with the study conducted by Mulema (2017), which investigated the relationship between debt management and financial performance in microfinance institutions. The study revealed a positive correlation between the two factors. Nevertheless, it is crucial to acknowledge that there exist supplementary aspects that exert influence on the performance levels of microfinance organizations. Nyawere (2020) did a study to assess the influence of debtors' management on the financial performance of deposit accepting microfinance banks in Kenya. The results indicate that the variables related to debtors' management did not have a substantial impact on the financial performance of the majority of these institutions.

The obtained correlation coefficient of 0.6354 indicates a statistically significant positive relationship between capital adequacy and the performance of SACCOS in Nandi County. The aforementioned discovery aligns with the study conducted by Sentero (2018), which revealed a statistically significant relationship between the predictor variables of capital adequacy ratio regulation and the operational efficiency of commercial banks in Kenya. The findings of the investigation indicate a reduction in non-performing loans as a result of the application of capital limitations. In a study conducted by Munywoki (2017), it was shown that a significant negative relationship existed between capital adequacy regulations and the performance of banks over the duration of the research period.

The correlation coefficient for the interest rate charged was determined to be 0.563, with a p-value of 0.000. The findings of this study demonstrate a statistically significant positive correlation between the interest rate imposed and the performance of Savings

and Credit Cooperative Societies (SACCOS) in Nandi County. This implies that an increase in the interest rate levied would result in a significant enhancement in performance. The study done by Sinkey and Greenwalt (2016) aimed to investigate the correlation between interest rates and the performance of major commercial banks in the United States. The investigators utilized a descriptive survey research methodology in order to collect and analyze data for their investigation. The study findings demonstrate a significant relationship between the interest rate imposed by banks and performance.

Based on the research conducted by Nelima (2020), it has been observed that there is an inverse correlation between interest rates and the overall performance of the Micro Finance Sector in Kenya. The study demonstrates a negative correlation between interest rates and the performance of the sector, indicating that as interest rates rise, the sector's performance tends to decline. Moti, Masinde, and Mugende (2018) identified a significant inverse relationship between the rate of interest applied and performance. The statistical analysis provides support for this discovery, as the obtained p-value (0.000) falls below the predetermined threshold of 0.05, demonstrating statistical significance with a 95% confidence level. Therefore, it is evident that the operational efficiency of microfinance institutions is impacted by the terms of interest rates, exhibiting an inverse relationship between the two variables.

4.6 Diagnostic Test for Linear Regression Analyses

4.6.1 Normality Test

Statistical errors are frequently observed in academic literature, particularly in relation to parametric processes such as correlation, regression, analysis of variance, and t-tests.

These techniques often rely on the assumption of a Gaussian or normal distribution. If this assumption is not upheld, it will be unfeasible to formulate a dependable inference. The Shapiro-Wilk test is predicated on the examination of the correlation between the observed data and the matching normal scores. The Shapiro-Wilk test demonstrates enhanced statistical power when the Lilliefors correction is applied.

According to Ghasemi and Zahedias (2012), the Kolmogorov-Smirnov test is widely used for assessing normalcy. This test is known for its strong sensitivity to outliers, and the application of the Lilliefors correction helps to mitigate its conservative nature. The method's limited power suggests that it should not be given significant consideration when assessing normalcy, particularly in cases where parameters are inferred from the sample data.

The Kolmogorov-Smirnov test should be employed judiciously due to its limited statistical power, and it is advised to visually examine the normality of the data. Based on the findings presented in Table 4.15, it can be concluded that the null hypotheses for all variables were rejected. This indicates that the data sets for the seven variables were found to deviate significantly from a normal distribution, as seen by the results of both the Kolmogorov-Smirnov test and the Shapiro-Wilk test, with a significance level below 0.05. According to Elliot and Woodward (2007), it is possible to employ parametric techniques even in cases where the data does not follow a normal distribution.

Table 4. 15:Tests of Normality

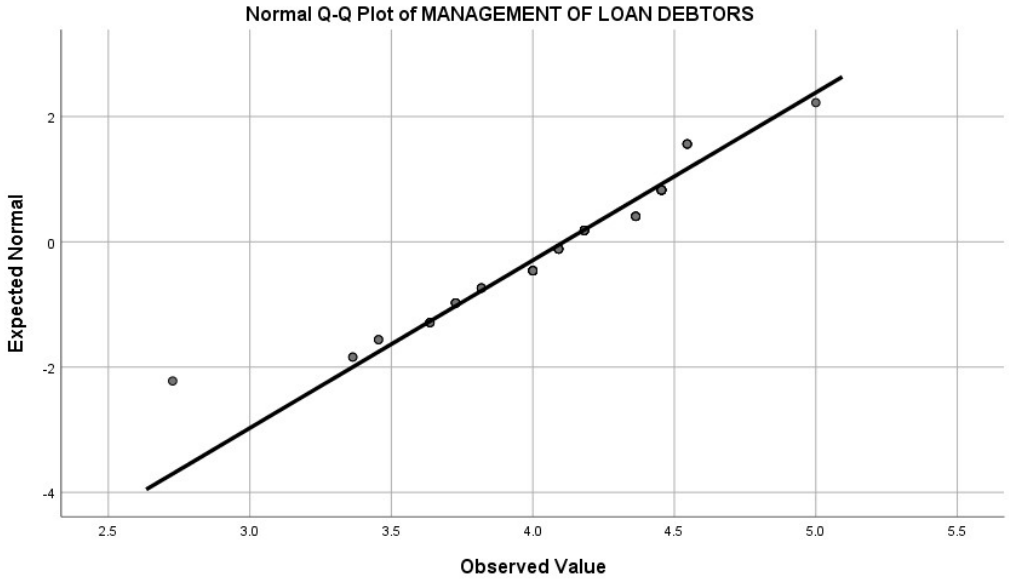
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Management of loan debtors	.213	82	.000	.755	82	.000
Capital adequacy	.218	82	.000	.927	82	.000
Interest rate charged	.223	82	.000	.749	82	.000
Performance of the saccos	.284	82	.000	.666	82	.000
a. Lilliefors Significance Correction						

Source; Research Data (2023)

The primary objective of this study was to assess the impact of financial parameters specific to firms on the performance of Savings and Credit Cooperative Societies (SACCOS) in Nandi County. This aligns with the overarching objective of the study, which aimed to provide comprehensive insights into the key factors influencing the financial performance of SACCOS. The findings of this study are valuable to the CBK, the regulatory authority in this sector, as they offer insights into effective regulatory systems and supervisory programs that can support the ongoing operations of commercial banks and other financial institutions.

The study findings yielded valuable insights into the influence of specific factors on the financial performance of SACCOs. Consequently, it is recommended that the central bank offer policy guidance to banks regarding the minimum requirements pertaining to these factors. Additionally, the board and management of SACCOs should be equipped with a deeper understanding of the impact of bank-specific factors on financial performance. This knowledge will enable them to take appropriate measures aimed at consistently enhancing the financial performance of SACCOs. Additionally, it can provide a structure for managers and other stakeholders to evaluate the financial performance of their Savings and Credit Cooperative Societies (SACCOS) in relation

to profitability, taking into consideration the factors that influence it. The study's findings revealed information pertaining to the individual factors of financial performance, specifically capital adequacy, interest rate charged, and managerial efficiency. The comprehensive examination of these factors provided in-depth insights into each aspect, thereby enhancing the existing body of knowledge.

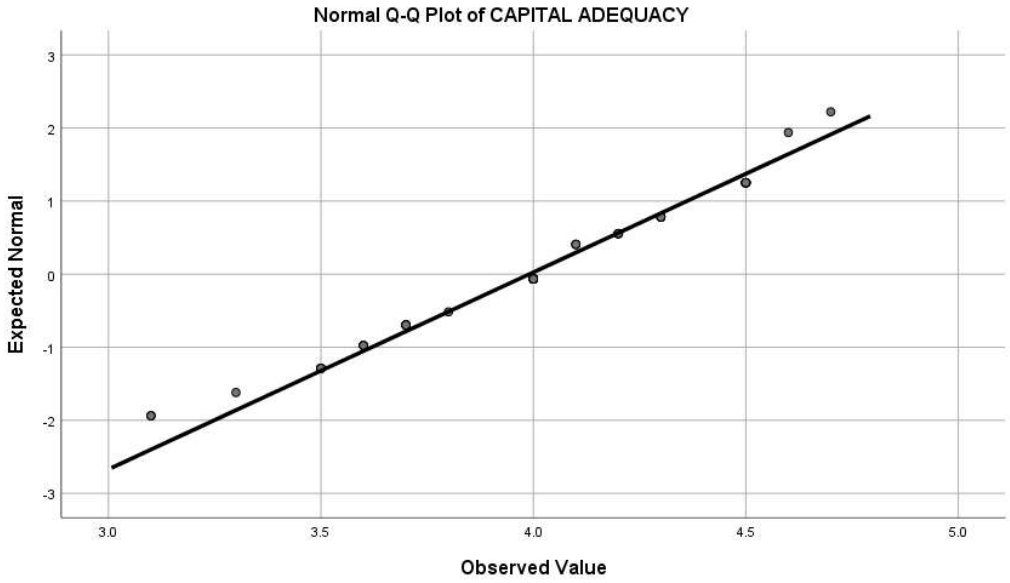


Source: Field Data (2023)

Figure 4. 3:Normal Q-Q plot of Management of Loan Debtors

In their publication titled Normality Tests for Statistical Analysis: A Guide for Non-Statisticians, Ghasemi and Zahedias (2012) advocate for the visual assessment of normality. According to Oztuna, Elhan, and Tuccar (2006), the violation of the normalcy assumption should not have significant implications when working with big samples, typically defined as those with a size greater than 30 or 40. Therefore, parametric techniques can be employed in situations when large samples (less than 30 or 40) are available, as the sampling distribution tends to approximate normality

irrespective of the data's distributional form. Based on the Q-Q plot depicted in Figure 4.3, it can be observed that the deviation from normality was rather minimal in comparison to the proximity to the line of best fit. Therefore, the data had a distribution that closely approximated a normal distribution, making it suitable for utilization in a regression analysis.



Source: Field Data (2023)

Figure 4.4: Normal Q-Q plot of capital adequacy

According to the data presented in Table 4.5, the deviation from normality observed in the Q-Q plot of interest rate change was minimal. The assumption can be made that the data follows a normal distribution, thereby allowing for the application of parametric statistical procedures such as correlation analysis, regression analysis, analysis of variance, and t-tests.

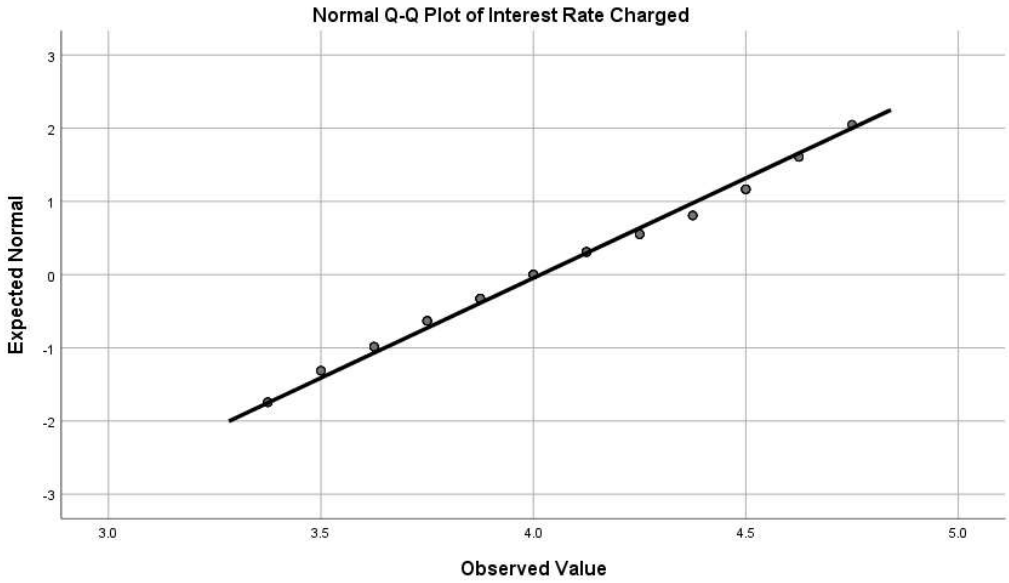


Figure 4.5: Normal Q-Q plot of interest rate change

In Figure 4.6, the departure from normalcy was shown to be rather minimal, as indicated by the deviation from the line of best fit. Therefore, the data had a distribution that closely approximated a normal distribution, making it suitable for utilization in a regression analysis.

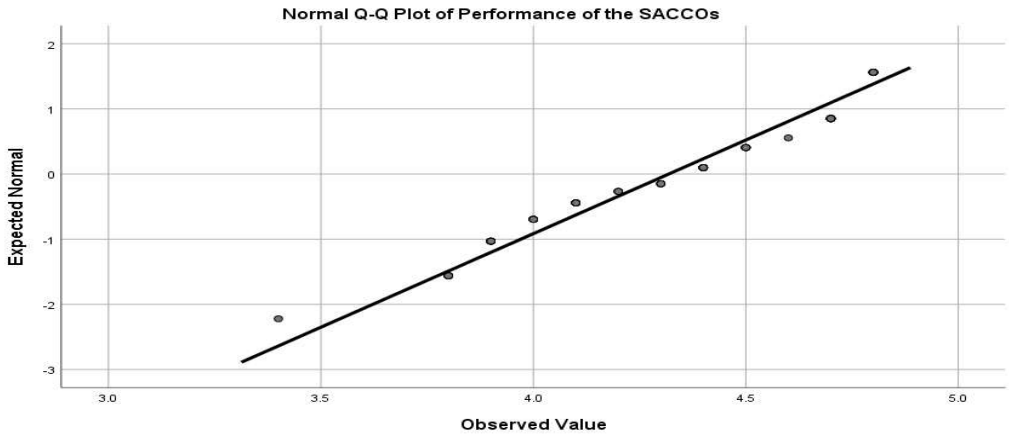


Figure 4.6: Normal Q-Q plot of performance

Source: Field Data (2023)

4.6.2 Test of Independence (Autocorrelation)

The Durbin-Watson test was employed to assess the independence of error terms, hence indicating the presence of independent observations. The Durbin-Watson test was done to see if there were any correlations in the residuals of the models. This is important for regression analysis, which assumes that residuals are independent (Akter, 2014). The findings are presented in Table 4.16.

Table 4.16: Autocorrelation Test for Regression

Std. Error of the Estimate	Durbin-Watson
.576193	1.957

Source: Field Data (2023)

Table 4.16 presents the results of the auto-correlation test conducted to examine the independence of residuals in a linear regression model. The Durbin-Watson value is commonly used as a criterion for assessing the presence of serial correlation. According to the literature (Alsaeed, 2005; Cameron, 2005; Curwin & Slater, 2008; Garson, 2012), a value close to 2 indicates the absence of serial correlation. In their study, Ogundipe, Idowu, and Ogundipe (2012) employed the Durbin-Watson test to analyze the residuals of their data. The study's findings revealed a Durbin-Watson coefficient value of 1.961, falling within the range of 1.5 to 2.5. This number suggests the absence of autocorrelation in the data residuals. According to the data presented in Table 4.12, the Durbin-Watson statistic yielded a value of 1.957. This falls within the range of 1.5 to 2.5, indicating the absence of autocorrelation.

4.6.3 Multi-collinearity Test

Multi-collinearity is a phenomenon characterized by a substantial correlation between two or more independent variables. As the degree of multi-collinearity escalates, it gives rise to instability in the regression coefficient, so rendering the interpretation of the coefficient's significance as an indicator of predictive factors more intricate (Cooper & Schindler, 2011). The presence of multi-collinearity was assessed by use either variance inflation factors (VIF) or tolerance values. If the Variance Inflation Factor (VIF) values are less than 10, it is generally considered that there is no issue with multicollinearity. Similarly, when the tolerance values are equal to or less than one, it indicates the absence of multicollinearity.

Table 4.17: Collinearity Statistics

Variable	Tolerance	VIF
Management of loan debtors	.371	2.692
Interest rate charged	.485	2.063
Capital adequacy	.635	1.575

Source: Field Data (2023)

The findings of the multi-collinearity test done in this study are displayed in Table 4.17. The observed tolerance values exhibited a range between 0.371 and 0.635, all of which surpassed the threshold of 0.2. As a result, the variance inflation factor (VIF), which is determined by taking the reciprocal of the tolerance values, exhibited a range of 1.575 to 2.692. These VIF values were below the required threshold of 10. This finding suggests that the dataset exhibited no evidence of multi-collinearity.

4.6.4 Homoscedastic Test of Performance

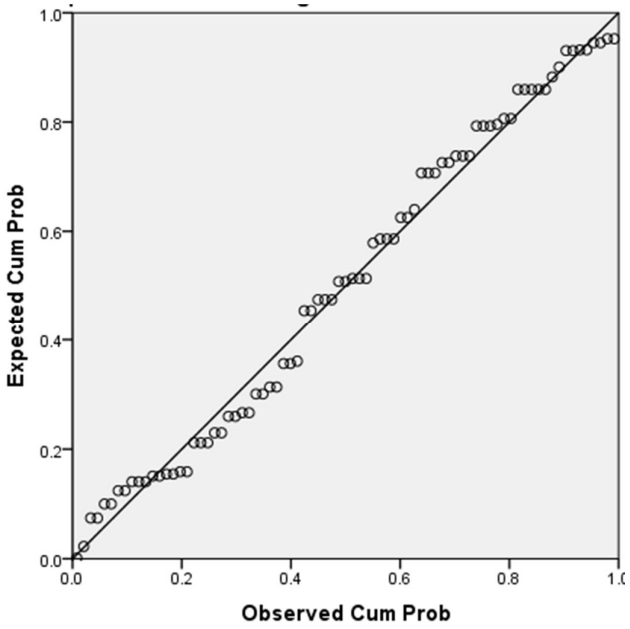


Figure 4.7: Homoscedastic Test of Performance

Source: Field Data (2023)

The results for the Homoscedasticity test, as depicted in Figure 4.7 above, indicate whether the independent variables exhibit equal variance. If the variance is not equal, it signifies the presence of heteroscedasticity, as stated by Garson (2012). A homoscedasticity test examines the presence of variance in the residuals of a regression model. The concept of homoscedasticity in data distribution can be assessed using a probability-probability plot (P-P Plot) (Cappelleri & Bushmakin, 2013). The P-P plot of performance depicted in Figure 4.1 reveals a minimal departure of the data points from the linear trendline that intersects the graph. This indicates that the data utilized in this study exhibits homoscedasticity, leading to the adoption of a multiple linear regression model. Consequently, there is no issue of heteroscedasticity.

4.7 Linear Regression Analyses

A regression analysis was performed to determine the influence of independent variables on the dependent variable. The current study yielded the calculation of two pivotal statistical indicators: R, denoting the correlation coefficient, and R square, denoting the determination coefficient. Other notable findings comprised the Significance level (P-value), B coefficients, and F statistics. The study utilized the correlation coefficient r (Beta, β) to investigate the hypothesis. The test requirements are designed in such a way that if the value of β is determined to be statistically significant, it will result in the rejection of the null hypothesis. In contrast, if the t-statistics do not yield a significant result for β, the null hypothesis cannot be rejected in the study (Carolyne, Robert & Ayub, 2020).

4.7.1 Influence of Management of loan debtors on Performance

Regression analysis was done to establish effects of management of loan debtors on performance of SACCOs in Nandi County. Results were presented in Table 4.18.

Table 4.18: Model Summary and ANOVA for Management of loan debtors

Model	R	R^2	Adj R^2	Std. Error of the Estimate
1	.740[a]	.547	.542	.606704

a. Predictors: (Constant), Management of loan debtors

Source: Field Data (2023)

According to the findings presented in Table 4.18, the coefficient of determination, also known as R square, indicates that about 54.7% of the variance in Performance can be

attributed to the management of loan debtors. This relationship is statistically significant, as seen by the calculated R^2value of 0.547 and a corresponding p-value of 0.000. This finding suggests that the management of loan borrowers has a substantial impact on performance. The findings align with the study conducted by Nyangoma (2022), which revealed a substantial positive correlation between the management of loan debtors and the financial success of microfinance institutions in Kampala. There exists a considerable correlation between the performance of microfinance institutions (MFIs) and the presence of more favorable credit terms.

Table 4.19: ANOVA Table- Management of Loan Debtors

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	35.587	1	35.587	96.679	.000[b]
	Residual	29.447	80	.368		
	Total	65.034	81			

a. Dependent Variable: Performance of the SACCOs

b. Predictors: (Constant), Management of Loan Debtors

Source: Field Data (2023)

The F test yielded a statistic of 96.679 with degrees of freedom (1, 81) and a significance level of $P<0.05$. This result provides evidence in favor of the model's ability to adequately explain the variability observed in the dependent variable, as presented in Table 4.19. Additionally, it may be inferred that the effective management of loan debtors serves as a valuable indicator of performance. Nduta (2019) found similar outcomes in their study investigating the impact of debtor loan management on the financial performance of microfinance institutions in Kenya. The results of the study indicated that the management of debtor loans had a notable and favorable impact on the financial performance of SACCOS.

Table 4.20: Regression Coefficient for Management of loan debtors

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.241	.395		.609	.544
Management of loan debtors	.960	.098	.740	9.833	.000

a. Dependent Variable: Performance

Source: Field Data (2023)

According to the findings presented in Table 4.20, the unstandardized regression coefficient (β) for the management of loan debtors was determined to be 0.960, with a significance level of p< .05. This finding suggests that a one-unit increase in the management of loan debtors is associated with a 0.960 increase in Performance in the same direction. The regression equation for estimating the performance of SACCOS in Nandi County, specifically in relation to the management of loan debtors, was formulated as follows:

Performance = 0.241+0.960 Management of loan debtors

The findings indicate that the management of loan debtors has a substantial positive effect on the performance of SACCOS in Nandi County. The results of this study align with the findings of Byaruhanga (2018), which demonstrated a favorable and substantial correlation between debtor loan management and the performance of agricultural cooperatives in Rwanda. In a study conducted by Nyawere (2020), the impact of debtors' management on the financial performance of deposit-taking microfinance institutions in Kenya was examined. The findings revealed that the majority of financial performance indicators in these institutions were not significantly affected by the variables related to debtors' management.

4.7.2 Influence of Capital adequacy on Performance

Regression analysis was done to determine the influence of capital adequacy on the Performance of SACCOs in Nandi County. The results are as shown in Table 4.21.

Table 4.21: Model Summary and ANOVA for Capital adequacy

Model	R	R^2	Adj R^2	Std. Error of the Estimate
1	.654[a]	.427	.420	.682257

a. Predictors: (Constant), Capital adequacy

Source: Field Data (2023)

According to the findings presented in Table 4.21, the R square value indicates that a substantial portion, specifically 42.7%, of the variability observed in Performance may be attributed to capital adequacy. This relationship is statistically significant, as evidenced by the obtained R^2 value of 0.426 and a corresponding p-value of 0.000. This finding suggests that the level of capital sufficiency has a substantial impact on the performance. According to a study conducted by Amahalu, Okoye, and Nweze (2017) in Nigeria, it was shown that there exists a statistically significant and positive correlation between Capital Adequacy and Financial Performance. Additionally, it has been empirically confirmed that Capital Adequacy has a statistically significant impact on the Financial Performance of Deposit taking SACCOs at a significance level of 5%.

Table 4.22: ANOVA Table- Capital Adequacy

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	27.796	1	27.796	59.715	.000[b]
	Residual	37.238	80	.465		
	Total	65.034	81			

a. Dependent Variable: Performance of the SACCOs

b. Predictors: (Constant), Capital Adequacy

Source: Field Data (2023)

The F test yielded a value of 59.715 with degrees of freedom (1, 81) and a significance level of P<0.05. This result provides evidence in favor of the model's ability to adequately explain the variability observed in the Performance. Additionally, it implies that the level of capital adequacy serves as a valuable indicator of performance.

Table 4.23: Regression Coefficient for Capital adequacy

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.997	.660		1.511	.135
	Capital adequacy	1.289	.167	.654	7.728	.000

a. Dependent Variable: Performance

Source: Field Data (2023)

According to the findings presented in Table 4.23, the unstandardized regression coefficient (β) for capital adequacy was determined to be 1.289, with a significance level of p< .05. This finding suggests that a one-unit increase in capital adequacy is associated with a 1.289 unit change in performance. The regression equation used to determine the

relationship between capital adequacy and performance in Kenya was thus formulated as follows:

Performance = .997+1.289 Capital adequacy

The research conducted revealed a statistically significant correlation between the level of capital adequacy and the performance of SACCOS within Nandi County. Hence, the level of capital adequacy exerts a substantial favorable impact on the performance of SACCOS within Nandi County. This discovery aligns with the research conducted by Sentero (2018), which established a notable correlation between the predictor variables of capital adequacy ratio regulation and the efficiency of commercial banks in Kenya. The research revealed a decrease in non-performing loans due to the implementation of capital requirements. Munywoki (2017) discovered that there existed a noteworthy inverse correlation between capital adequacy regulations and the performance of banks throughout the time under investigation.

4.7.3 Influence of Interest rate charged on Performance

A regression study was conducted to ascertain the impact of interest rates on the performance of SACCOS in Nandi County. The findings are depicted in Table 4.24.

Table 4.24: Model Summary-Interest rate charged

Model	R	R^2	Adj R^2	Std. Error of the Estimate
1	.563[a]	.317	.308	.745158

a. Predictors: (Constant), Interest rate charged

Source: Field Data (2023)

Based on the results displayed in Table 4.24, the coefficient of determination, commonly referred to as R square, suggests that a significant proportion of the variance in Performance may be ascribed to the interest rate imposed. The R-squared value of 0.317 indicates that around 31.7% of the variability in Performance can be effectively accounted for by fluctuations in the interest rate applied. The statistical significance of this link is shown by the p-value of 0.000. This implies that the performance is considerably impacted by the interest rate levied. Nelima (2020) observed that the management of debtor loans, encompassing the assessment of interest rates, exerted an adverse influence on the functioning of the Micro Finance Sector in Kenya. The study provided evidence indicating that an increase in interest rates was correlated with a decline in performance levels. Moti, Masinde, and Mugende (2018) found evidence of a statistically significant negative correlation between interest charged and performance. This is supported by the estimated p-value (0.000), which is below the conventional threshold of 0.05 at a 95% confidence level. Hence, the performance of microfinance organizations is influenced by interest rate terms, and this relationship exhibits an inverse proportionality.

Table 4.25: ANOVA Table- Interest Rate Charged

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	20.613	1	20.613	37.123	.000[b]
	Residual	44.421	80	.555		
	Total	65.034	81			

a. Dependent Variable: Performance of the SACCOs

b. b. Predictors: (Constant), Interest Rate Charged

Source: Field Data (2023)

The F test yielded a value of 37.123 with degrees of freedom (1, 81), indicating statistical significance at a significance level of P<0.05. This result provides evidence in favor of the model's ability to adequately explain the variability observed in the dependent variable. Additionally, it may be inferred that the performance of a certain entity is strongly influenced by the interest rate that is imposed.

Table 4.26: Regression Coefficient for Interest rate charged

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.649	.406		4.066	.000
	Interest Rate Charge	.635	.104	.563	6.093	.000

a. Dependent Variable: Performance

Source: Field Data (2023)

According to the findings presented in Table 4.26, the unstandardized regression coefficient (β) for the variable representing the interest rate charged was determined to be 0.635, with a significance level of p < .05. This finding suggests that a one-unit increase in the interest rate charged is associated with a corresponding increase of 0.635 in

performance in the same direction. The regression equation used to assess the performance in Kenya as a consequence of the interest rate charged was thus formulated as follows:

Performance = 1.649+0.635 Interest rate charged

The results of the study revealed that the interest rates imposed by SACCOs in Nandi County had a noteworthy impact on their financial performance. These findings are consistent with the research conducted by Abugah, Michael, and Odoyo (2017), which revealed a statistically significant association between interest rate policy and performance in a sample of commercial banks in Kenya. The study provides evidence indicating that the implementation of interest rate policies has resulted in enhanced loan performance among commercial banks operating in Kenya. This observation highlights the bank's capacity to offer a diverse array of services to its clientele. Mutwol and Kubasu (2018) reached the conclusion that there exists no statistically significant correlation between the control of central bank rates and the performance of loan portfolios in commercial banks operating in Kenya. Based on the research findings, it is evident that alterations in the central bank rate do not invariably result in modifications to the performance of loan portfolios.

4.8 Multiple Linear Regressions

The purpose of this study was to investigate the impact of financial characteristics of firms on the performance of SACCOS in Nandi County. The aforementioned objective was accomplished through the implementation of conventional multiple regression analyses. The study aimed to investigate the impact of individual constructs of firm financial

determinants on Performance when all of these constructs were collectively included in the model. This facilitated the determination of the coefficients of the study model, as well as the calculation of the R-squared value, which in turn allowed for the testing of the null research hypotheses. The findings are presented in Table 4.27.

Table 4.27: Model Summary Firm financial factors and Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.776[a]	.602	.586	.576193

a. Predictors: (Constant), Management of loan debtors, capital adequacy, Interest rate charged

Source: Field Data (2023)

The findings shown in Table 4.27 demonstrate a positive and linear correlation between Performance and the three predictor variables: capital adequacy, management of loan debtors, and interest rate charged. The calculated correlation coefficient was found to be 0.776 (r = 0.776). The obtained coefficient of determination (r2) was determined to be 0.602, suggesting that approximately 60.2% of the observed fluctuations in performance may be attributed to the three predictor variables investigated in the research. The residual 39.8% of the variances in performance can be ascribed to other factors that were not accounted for in the model.

Table 4.28: ANOVA for Firm financial factors

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	39.138	3	13.046	39.295	.000[b]
	Residual	25.896	78	.332		
	Total	65.034	81			

a. Dependent Variable: Performance

b. Predictors: (Constant), Management of loan debtors, capital adequacy, Interest rate charged

Source: Field Data (2023)

According to the findings presented in Table 4.28, the analysis of variance (ANOVA) yielded a significant F value of $F(3, 781) = 39.295$, $p < .05$. This result indicates that the model well explains the variability observed in the dependent variables. Additionally, it can be inferred that strong financial indicators serve as a valuable predictor of the performance of SACCOS in Nandi County.

Table 4.29: Coefficients of the Independent Variables and Performance

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.042	.572		-1.822	.072
Management of loan debtors	.566	.152	.436	3.721	.000
Capital adequacy	.516	.202	.262	2.550	.013
Interest rate charged	.216	.101	.192	2.140	.035

a. Dependent Variable: PF

Source: Field Data (2023)

The multiple linear regression model was developed by conducting a regression analysis of the three predictor variables versus performance. The results of this analysis are presented in Table 4.29.

Performance = 1.042+ 0.566$\mathbf{X_1}$ +0.516$\mathbf{X_2}$ + 0.216$\mathbf{X_3}$.....**Equation 4.2**

$X_{1=}$ Management of loan debtors

$X_{2=}$ Capital adequacy

$X_{3=}$ Interest rate charged

According to the findings presented in Table 4.29, the variables related to the management of loan debtors, interest rate charged, and capital sufficiency demonstrated positive predictive potential. However, it is important to note that these relationships were found to be statistically insignificant, as indicated by a p-value greater than 0.05. If there is a lack of firm financial components or if they are set to zero, the Performance will be 1.042, with a p-value of 0.072. This suggests that performance will exhibit a negative and statistically negligible impact. When the interest rate charged and capital adequacy are regulated, the management of loan debtors with a beta of 0.566 demonstrates a statistically significant relationship and serves as a reliable indicator of performance. This suggests that a one-unit increase in the management of loan debtors will lead to a significant increase in performance by 0.566 units. This finding aligns with the research conducted by Mulema (2017) on the correlation between debtors' management and financial performance in microfinance institutions. The study concludes that a positive association exists between these variables. However, it is important to note that there are additional elements that also influence the performance levels of microfinance institutions. In a study conducted by Nyawere (2020), the impact of debtors' management on the financial performance of deposit-taking microfinance institutions in Kenya was examined. The findings revealed that the majority of financial performance indicators in these institutions were not significantly affected by the variables related to debtors' management.

When the interest rate charged and the management of loan debtors are managed, the capital adequacy with a beta of 0.516 demonstrates statistical significance. This suggests that an increase in capital adequacy by one unit will lead to a significant rise in performance by 0.516 units. The findings are corroborated by the study conducted by Orji and Agubata (2021), which investigated the impact of capital sufficiency on the performance of firms in Nigeria. The study's results indicate that capital adequacy has a statistically significant and favorable impact on firms' performance in Nigeria, with a significance level of 5%. The study conducted by Susilawati, Shavab, and Mustika (2022) shown a noteworthy positive correlation between capital adequacy and profitability (ROA) within the pharmaceutical sub-sector manufacturing companies listed on the Indonesia Stock Exchange throughout the period of 2015-2019. In a study conducted by Abubakar (2021), an assessment was made on the impact of capital adequacy on financial performance. The findings derived from the random effects model (REM) regression analysis reveal a statistically significant negative relationship between capital sufficiency and financial success, as measured by return on equity (ROE).

Finally, when the capital sufficiency and management of loan debtors are well regulated, it is observed that the interest rate charged, with a beta coefficient of 0.216, reaches a statistically significant level. This suggests that an increase in the interest rate charged by one unit will lead to a significant performance rise of 0.216 units. This finding is consistent with the research conducted by Abugah, Michael, and Odoyo (2017), which revealed a statistically significant correlation between interest rate policy and performance in a sample of commercial banks in Kenya. Mutwol and Kubasu (2018) reached the conclusion that there exists no statistically significant correlation between interest rate regulation and the

performance of commercial banks in Kenya. Based on the research findings, it can be concluded that alterations in the interest rate imposed do not necessarily result in corresponding changes in performance.

4.10 Stepwise Regression

Stepwise regression is a statistical technique used to construct regression models by systematically selecting predictor variables through an automated process. In each iteration, a variable is evaluated for inclusion or exclusion from the set of explanatory variables according to a predetermined criterion. The findings are presented in Table 4.30.

Table 4.30: Stepwise Regression

				Std. Error of	Change Statistics			
Model	**R**	**R Square**	**Adj R Square**	**the Estimate**	**R Square Change**	**F Change**	**Df**	**Sig.F Change**
1	.740[a]	0.547	0.542	0.606704	0.547	96.679	1,80	.000
2	.761[b]	0.578	0.568	0.589104	0.031	5.852	1,79	.018
3	.776[c]	0.602	0.586	0.576193	0.023	4.580	1,78	.035

a. Predictors: (Constant), Management of Loan Debtors
b. Predictors: (Constant), Management of Loan Debtors, Capital Adequacy
c. Predictors: (Constant), Management of Loan Debtors, Capital Adequacy, Interest Rate Charged

Source: Field Data (2023)

According to the findings presented in Table 4.30, the R^2 value demonstrates an increase with the inclusion of each independent variable. The F value indicates that the variables of interest rate charged, capital adequacy, and management of loan debtors have a statistically significant impact on every addition, with a confidence level of 95%. The findings indicatse

that the R^2 value consistently increases with each step for the important variables, ultimately reaching a value of 0.602. Based on the aforementioned data, it is evident that the management of loan debtors accounts for 54.7% of the variance in the performance of SACCOS in Nandi County. Additionally, the contribution of capital adequacy to the model is 3.1%, while the interest rate charged contributes 2.3%. This finding indicates that the management of loan debtors had the greatest impact, followed by capital adequacy, and last, the interest rate charged.

Table4.31: Summary of Hypotheses Testing

#	Hypothesis	Test Criteria	Decision	Conclusion
H_{O1}	Management of loan debtors has no significant effect on financial performance of Saccos in Nandi County	Reject Null Hypothesis if P<0.05; Alternatively, fail to reject	Rejected	Management of loan debtors has significant effect on financial performance of Saccos in Nandi County
H_{O2}	Capital Adequacy has no significant effect on financial performance Saccos in Nandi County	Reject Null Hypothesis if P<0.05; Alternatively, fail to reject	Rejected	Capital Adequacy has no significant effect on financial performance Saccos in Nandi County
H_{O3}	Interest rate charged has no significant effect on financial performance Saccos in Nandi County	Reject Null Hypothesis if P<0.05; Alternatively, fail to reject	Rejected	Interest rate charged has no significant effect on financial performance Saccos in Nandi County

Source: Field Data (2023)

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter provides a comprehensive summary of the content discussed in the preceding chapters. Additionally, this section emphasizes the conclusions drawn from the study's findings, as well as the recommendations and suggestions for future research.

5.1 Summary of findings

The primary aim of the study was to investigate the impact of company financial determinants on the financial performance of SACCOS in Nandi County, Kenya. The primary aims of this study were to examine the impact of loan debtor management on the performance of SACCOS in Nandi County, assess the influence of capital adequacy on the performance of SACCOs in the same region, and investigate the effects of interest rates charged on the performance of SACCOs in Nandi County. Hypothesis tests were conducted at a 95% confidence level ($p<0.05$) to examine the independent and combined effects. The subsequent parts offer the summary of the findings in an equal manner.

5.1.1 Influence of management of loan debtors on Performance

The first objective of the study was to establish effects of management of loan debtors on performance of SACCOs in Nandi County. According to the participants, it was found that their Sacco possesses a credit policy handbook which serves as a valuable resource in facilitating the process of debt recovery. Additionally, the organization has implemented internal protocols to assess and evaluate the credit limits of counterparties, hence ensuring effective management of credit risks. Moreover, in instances of loan default, appropriate

actions are implemented to retrieve both the principal sum and accrued interest. Additionally, a credit policy manual is upheld to facilitate the process of debt recovery. Finally, the evaluators took into account the client's credit history and character as part of the credit appraisal process.

The inferential analysis yielded significant findings indicating a positive correlation between the management of loan debtors and performance ($R=0.740$, $P>0.05$). This suggests that an increase in the management of loan borrowers would lead to an increase in performance. The R-squared value, which represents the coefficient of determination, suggests that approximately 54.7% of the variation in performance may be attributed to the management of loan borrowers. This relationship is statistically significant, as demonstrated by a p-value of 0.000. This suggests that the management of loan debtors plays a crucial role in predicting the performance of SACCOS in Nandi County. When the interest rate charged and capital adequacy are regulated, an increase of one unit in the management of loan debtors leads to a substantial increase in performance by 0.566 units ($\beta1=0.566$, $P>0.05$). Hence, the present investigation was unable to substantiate the initial null hypothesis, which postulates: Hypothesis 1: The management of loan debtors does not have a statistically significant impact on the performance of SACCOS in Nandi County.

5.1.2 Effect of capital adequacy on the Performance

The study's second objective aimed to assess the impact of capital sufficiency on the performance of SACCOS within Nandi County. The findings indicate that a significant proportion of the participants expressed agreement with the notion that capital adequacy rules serve the purpose of creating a reserve fund, derived from the profits of the Savings

and Credit Cooperative Organization (SACCO), in order to mitigate the potential loss of capital. The enhancement of financial performance in the Sacco can be attributed to the observation of the institutional capital to total asset requirement. Additionally, the improvement of SACCO wealth can be attributed to the observation of the institutional capital to Members savings. Furthermore, the positive contribution of the institutional capital of the SACCO has facilitated the availability of sufficient funds for members' withdrawals. Moreover, the implementation of capital adequacy requirements has served to safeguard our depositors as the SACCO expands its risk profile. Lastly, the presence of core capital has enabled the SACCO to increase its deposit collection and extend more loans to its members.

The inferential analysis yielded significant findings indicating a positive correlation between capital sufficiency and performance (correlation coefficient, $R = 0.654$, $p < 0.001$). This suggests that an increase in capital sufficiency would lead to an increase in performance. The R-squared value of 0.427, with a corresponding p-value of 0.05, suggests that approximately 42.7% of the observed variation in performance may be attributed to capital adequacy. This suggests that the level of capital sufficiency has a crucial role in determining the performance of SACCOS in Nandi County. When the management of loan debtors and the interest rate charged are effectively handled, an increase in capital adequacy by one unit leads to a substantial increase in performance by 0.516 units ($\beta 2=0.516$, $P=0.013$). Therefore, there was sufficient evident to reject the second null hypothesis that posits: $\mathbf{H_{02}}$: Capital adequacy has no significant effect on performance of SACCOs in Nandi County.

5.1.3 Effect of Interest rate charged on Performance

The third objective of the study was to establish effects of interest rate charged on performance of SACCOs in Nandi County. According to the respondents, it was found that their Sacco actively engages the director in the development of strategies to address the impact of interest rate policies. Additionally, the Sacco utilizes past experiences to effectively navigate fluctuations in interest rates.

The inferential analysis demonstrated a significant positive correlation (R=0.563, P=0.000) between the interest rate charged and performance. This suggests that a rise in the interest rate charged would lead to an increase in performance. The analysis of the coefficient of determination, as indicated by the R-square value, demonstrates that approximately 31.7% of the variability in Performance may be attributed to the effective management of loan debtors (R2=0.317, P=0.000). This proposition posits that the interest rate imposed serves as a valuable indicator of the performance of SACCOS in Nandi County. When the management of loan debtors and capital adequacy is effectively controlled, an increase in the interest rate charged by one unit will lead to a substantial improvement in performance, namely by 0.216 units (β3=0.216, P=0.035). Therefore, there was adequate evident to reject the third null hypothesis that posits: **H_{03}**: Interest rate charged has no significant effect on performance of SACCOs in Nandi County.

5.2 Conclusion

It is evident that SACCOs in Nandi County maintained a credit policy manual to help in debt recovery and they have established Internal guidelines to approve and review

counterparty credit limits. Besides, they considered client credit history and character during Credit Appraisal. These have resulted to significant improvement in performance of SACCOs in Nandi County. Therefore, study concluded that management of loan debtors have significant effect on the performance of SACCOs in Nandi County.

From the findings it is evident that capital adequacy requirements establish a risk reserve from the SACCO's profits to safeguard loss of capita. Further, observing the institutional capital to total asset requirement has improved the financial performance of the Sacco while institutional capital to Members savings have improved the SACCO wealth. Further, observing the institutional capital of the SACCO has positively contributed to sufficient funds for members withdrawals. Capital adequacy requirements have protected our depositors as the SACCO expands its risk profile and core capital has enabled the SACCO to collect more deposits and lend more to the members. Therefore, study concluded that capital adequacy has significant effect on the Performance of SACCOs in Nandi County. This suggests that improvement in core capital and institutional capital would results to significant increases in Performance of SACCOs in Nandi County.

SACCOs in Nandi County Sacco involved the director in formulating the sensitivity to interest rate policies and used the previous challenges to changes in interest rate. Therefore, study concluded that interest rate charged have significant effect on the performance of SACCOs in Nandi County.

5.4 Recommendations

The conclusion of the study led to both policy and practical recommendations based on the following specific objectives.

Regarding the first objective, the study recommended that Sacco management maintain a credit policy manual to facilitate debt collection. In addition, management must provide the necessary resources for effective management of loan debtors. This includes competent and motivated personnel; efficient information systems to make data processing faster and more accurate, which will also improve the debt collection process and ensure that their objectives and goals are met without limitation.

Regarding the second objective, the study recommended that the management of SACCOs in Nandi County monitor their core capital, institutional capital, and members' savings in order to better their total asset-based financial performance. Moreover, Saccos should use their core capital to collect more deposits and lend more to members, while at the same time providing sufficient institutional capital for members' withdrawals.

Regarding the third objective, the study recommended that Sacco management include stakeholders in the formulation of interest rate sensitivity policies. This included directors and the SASRA regulator. In addition, the study recommended that SACCOs take inflation into account when determining the real interest rate, as interest rates increase the cost of credit and impede borrowers' ability to service their debt.

5.5 Suggestions for Future Research

This study aimed to determine the impact of firm financial factors on the financial performance of SACCOs in Kenya's Nandi County. Conceptually, the study was limited to loan debtor management, interest rate levied, and capital sufficiency. The implementation of these three strategies accounted for up to 60.2% of performance variation. Other firm financial factors, such as liquidity and operational efficiency, can be examined to determine if they can increase the variance beyond 60.2%.

There were no moderating or mediating variables included in the study. Therefore, researchers should consider incorporating other variables, such as firm size and macroeconomic factors such as foreign exchange, market risk, and inflation, which may have indirect effects on the performance of Saccos, into similar studies.

Geographically and contextually, the survey was limited to Saccos in Nandi County. Comparisons should be made with Saccos in other counties as part of future research. In addition, analogous research should be conducted in commercial banks and Microfinance institutions that accept deposits.

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APPENDICES

Appendix 1: Questionnaire

Instruction: This questionnaire is intended to collect data on the EFFECT OF FIRM FINANCIAL FACTORS ON PERFOMANCE OF SACCOs in Nandi County Kenya.

SECTION A: GENERAL INFORMATION

1. Name of the SACCO (optional)…….

2. Who are your members? .....

3. How long has the SACCO been in existence? ……...

4. Please indicate the period you have been with your current SACCO

Less than 1 Year [ ] 1 -3 Years [ ] 4 to 6 years [ ] 7 to 9 years [ ] More than 9 years[ ].

5.Level of education **Tick**

Certificate () Diploma () Degree () Masters () Other ()

5. What is your age 20-30( )30-40 ( )40-50( )50 and above ( )

6. Gender Male( ) Female( )

7. What is your profession? Teacher ( )Farmer( )civil servant ( )Business person( )Health worker( )Bank clerk,Driver,Engineer( )Mason,Pilot(

SECTION B: CAPITAL ADEQUACY

To what extent do you agree or disagree with the following statements on capital adequacy?

Where; 5 strongly agree, 4 agree, 3 neutral 2 disagree, 1 strongly disagree.

	Capital Adequacy Ratios	**5**	**4**	**3**	**2**	**1**
1	Observing the core capital to total asset requirement has improved the financial performance of the Sacco					
2	Observing the institutional capital to total asset requirement has improved the financial performance of the Sacco					
3	Capital adequacy requirements establish a risk reserve from the SACCO's profits to safeguard loss of capita					
4	Our capital provides a cushion to fluctuations in earnings for us to continue with our operations throughout					
5	Observing the institutional capital to total asset requirement has improved the financial performance of the Sacco					
6	Observing the institutional capital to Members savings have imprssoved the SACCO wealth					
7	Capital adequacy requirements provide the SACCO with large provision for debts that can be absorbed by the SACCO's capital					
8	Observing the institutional capitalof the SACCO has positively contributed to sufficient funds for members withdrawals					
9	Capital adequacy requirements have protected our depositors as the SACCO expands its risk profile					
10	Our core capital has enabled the SACCO to collect more deposits and lend more to the members					

SECTION C: Management of loan debtors

To what extent do you agree or disagree with the following statements on management efficiency? Where; 5 strongly agree, 4 agree, 3 neutral 2 disagree, 1 strongly disagree.

	MANAGEMENT OF LOAN DEBTORS	5	4	3	2	1		
1	In my organization we have regular reviews on collection policies to improve the state of debtor loan management.							
2	In my organization we maintain a credit policy manual to help in debt recovery.							
3	In my organization we flexible repayment duration enhances loan repayment.							
4	In my organization we consider Client credit history and character during Credit Appraisal.							
5	In my organization we extension of Credit to borrower is according to customer profile.							
6	In my organization we maintain a control system of Customer loan repayments.							
7	In my organization we conduct background check on clients before to ensure that they have the willingness and ability to repay a loan.							
8	In my organization we cases of loan default, measures are taken to recover both the principal amount and interest.							
9	In my organization we have established Internal guidelines to approve and review counterparty credit limits.							

10	In my organization we have competent personnel to carry out Credit appraisal.							
11	In my organization we consider Client credit history and character during Credit Appraisal							

SECTION D: Interest Rate Charged

To what extent do you agree or disagree with the following statements on Interest rate charged? Where; 5 strongly agree, 4 agree, 3 neutral 2 disagree, 1 strongly disagree.

	Interest Rate Charged	5	4	3	2	1
1	Our Sacco involves stakeholders in formulating the sensitivity to interest rate policies					
2	Our Sacco involves the director in formulating the sensitivity to interest rate policies					
3	Our Sacco involves the regulator in formulating the sensitivity to interest rate policies					
4	Our Sacco uses the previous challenges to changes in interest rate					
5	average rate of interest charged on loan to members in the last 2 years.					
6	rate the interest charged is much better as compared to other financial institutions in the county					

7	Interest rate charged by your SACCO affect its financial performance					
8	For the last five years, the level of inflation has greatly affected our Sacco performance					

Performance of the SACCOs

To what extent do you agree or disagree with the following statements on Interest rate charged? Where; 5 strongly agree, 4 agree, 3 neutral 2 disagree, 1 strongly disagree.

	Performance of the SACCOs	5	4	3	2	1
1	The capital base of the deposit taking Sacco has consistently increased.					
2	The profits of the deposit taking Sacco have consistently grown					
4	The remuneration of employees of in my deposit taking Sacco is adequate.					
5	Shareholders value in my deposit taking Sacco has increased					
6	My deposit taking Sacco has been prompt in paying of its debts when due.					
7	The deposit taking Sacco maintains the cost of holding current assets as low as possible					
8	Interest on member's deposit has been increasing over the years.					

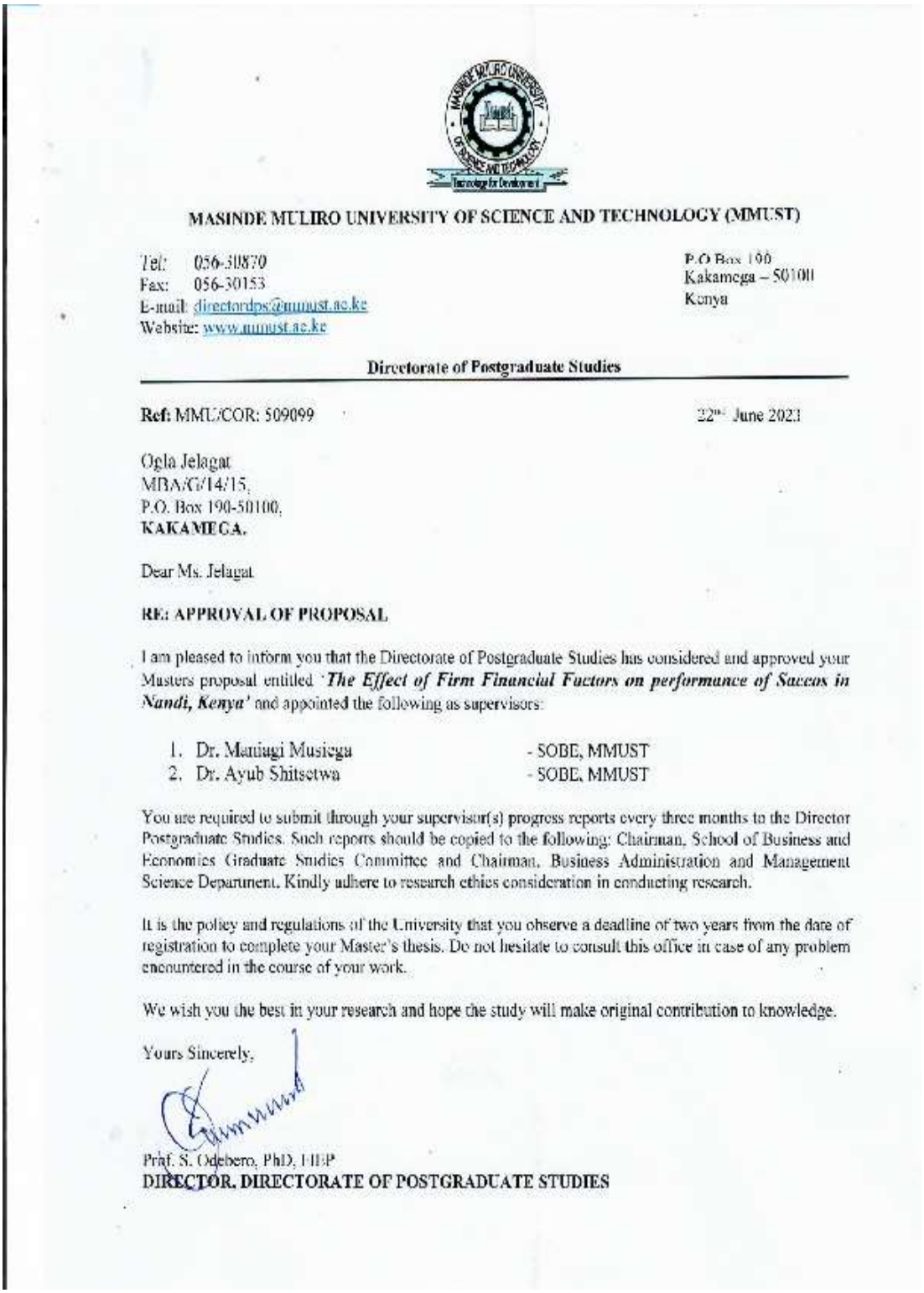
9	The Sacco membership has expanded over the years					
10	The dividend per share of the deposit taking Sacco has consistently increased					

Appendix 2: List of Active Registered SACCOs Within Nandi County

	SACCO NAME	**Sector**
1	THE APPLE SACCO SOCIETY LTD	Agriculture
2	SKYLINE SACCO SOCIETY LTD	Trasport
3	IMARISHA SACCO SOCIETY LTD.	Education
4	BORESHA SACCO SOCIETY LTD.	Agriculture
5	TRANS ELITE SACCO SOCIETY LTD.	Education
6	KABIYET SACCO SOCIETY LTD.	Agriculture
7	BARATON UNIVERSITY SACCO SOCIETY LTD.	Education
8	CHEBOKAPTICH SACCO SOCIETY LTD	Agriculture
9	NANDI FARMERS SACCO SOCIETY LTD	Agriculture
10	KOLENGE TEA SACCO SOCIETY LTD	Agriculture

Source; Ministry of cooperative Nandi County (2023)

Appendix 3: MMUST Letter of Authorization to Collect Data



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P.O Box 190
Kakamega – 50100
Kenya

Directorate of Postgraduate Studies

Ref: MMU/COR: 509099

22nd June 2023

Ogla Jelagat
MBA/G/14/15,
P.O. Box 190-50100,
KAKAMEGA.

Dear Ms. Jelagat

RE: APPROVAL OF PROPOSAL

I am pleased to inform you that the Directorate of Postgraduate Studies has considered and approved your Masters proposal entitled '***The Effect of Firm Financial Factors on performance of Saccos in Nandi, Kenya***' and appointed the following as supervisors:

1. Dr. Maniagi Musiega - SOBE, MMUST
2. Dr. Ayub Shitsetwa - SOBE, MMUST

You are required to submit through your supervisor(s) progress reports every three months to the Director Postgraduate Studies. Such reports should be copied to the following: Chairman, School of Business and Economics Graduate Studies Committee and Chairman, Business Administration and Management Science Department. Kindly adhere to research ethics consideration in conducting research.

It is the policy and regulations of the University that you observe a deadline of two years from the date of registration to complete your Master's thesis. Do not hesitate to consult this office in case of any problem encountered in the course of your work.

We wish you the best in your research and hope the study will make original contribution to knowledge.

Yours Sincerely,

Prof. S. Odebero, PhD, HSP
DIRECTOR, DIRECTORATE OF POSTGRADUATE STUDIES

Appendix 4: Research Permit from NACOSTI

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 822640

Date of Issue: 17/July/2023

RESEARCH LICENSE

This is to Certify that Miss.. JELAGAT OGLA OGLA of Maxinde Muliro University of Science and Technology, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nandi on the topic: The Effects of Firm Financial Factors on Perfomance of SACCOS in Nandi County, Kenya for the period ending : 17/July/2024.

License No: NACOSTI/P/23/27512

822640

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

Appendix 5: Validity of Research Instruments

CAPITAL ADEQUACY

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.687
Bartlett's Test of Sphericity	Approx. Chi-Square	329.053
	Df	45
	Sig.	.000

	Capital Adequacy Ratios	Extraction
1	Observing the core capital to total asset requirement has improved the financial performance of the Sacco	.566
2	Observing the institutional capital to total asset requirement has improved the financial performance of the Sacco	.843
3	Capital adequacy requirements establish a risk reserve from the SACCO's profits to safeguard loss of capita	.781
4	Our capital provides a cushion to fluctuations in earnings for us to continue with our operations throughout	.797
5	Observing the institutional capital to total asset requirement has improved the financial performance of the Sacco	.820
6	Observing the institutional capital to Members savings have improved the SACCO wealth	.735
7	Capital adequacy requirements provide the SACCO with large provision for debts that can be absorbed by the SACCO's capital	.732
8	Observing the institutional capitalof the SACCO has positively contributed to sufficient funds for members withdrawals	.877
9	Capital adequacy requirements have protected our depositors as the SACCO expands its risk profile	.643
10	Our core capital has enabled the SACCO to collect more deposits and lend more to the members	.817

	Capital Adequacy Ratios	1	2	3	4
1	Observing the core capital to total asset requirement has improved the financial performance of the Sacco	.575			
2	Observing the institutional capital to total asset requirement has improved the financial performance of the Sacco	.484			
3	Capital adequacy requirements establish a risk reserve from the SACCO's profits to safeguard loss of capita				.686
4	Our capital provides a cushion to fluctuations in earnings for us to continue with our operations throughout	.557			
5	Observing the institutional capital to total asset requirement has improved the financial performance of the Sacco	.591			
6	Observing the institutional capital to Members savings have improved the SACCO wealth		.664		
7	Capital adequacy requirements provide the SACCO with large provision for debts that can be absorbed by the SACCO's capital	.684			
8	Observing the institutional capitalof the SACCO has positively contributed to sufficient funds for members withdrawals			.750	
9	Capital adequacy requirements have protected our depositors as the SACCO expands its risk profile	.743			
10	Our core capital has enabled the SACCO to collect more deposits and lend more to the members	.877			

MANAGEMENT EFFICIENCY

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.855
Bartlett's Test of Sphericity	Approx. Chi-Square	800.402
	Df	55
	Sig.	.000

	MANAGEMENT OF LOAN DEBTORS	Extraction
1	In my organization we have regular reviews on collection policies to improve the state of debtor loan management	.673
2	In my organization we maintain a credit policy manual to help in debt recovery	.744
3	In my organization we flexible repayment duration enhances loan repayment	.610
4	In my organization we consider Client credit history and character during Credit Appraisal	.681
5	In my organization we extension of Credit to borrower is according to customer profile	.804
6	In my organization we maintain a control system of Customer loan repayments.	.636
7	In my organization we conduct background check on clients before to ensure that they have the willingness and ability to repay a loan.	.686
8	In my organization we cases of loan default, measures are taken to recover both the principal amount and interest	.842
9	In my organization we have established Internal guidelines to approve and review counterparty credit limits	.871
10	In my organization we have competent personnel to carry out Credit appraisal	.782
11	In my organization we consider Client credit history and character during Credit Appraisal	.762

	MANAGEMENT OF LOAN DEBTORS	1	2
1	In my organization we have regular reviews on collection policies to improve the state of debtor loan management		.709
2	In my organization we maintain a credit policy manual to help in debt recovery	.784	
3	In my organization we flexible repayment duration enhances loan repayment	.599	
4	In my organization we consider Client credit history and character during Credit Appraisal		.824
5	In my organization we extension of Credit to borrower is according to customer profile		.872

6	In my organization we maintain a control system of Customer loan repayments.	.797	
7	In my organization we conduct background check on clients before to ensure that they have the willingness and ability to repay a loan.	.806	
8	In my organization we cases of loan default, measures are taken to recover both the principal amount and interest	.827	
9	In my organization we have established Internal guidelines to approve and review counterparty credit limits	.848	
10	In my organization we have competent personnel to carry out Credit appraisal		.681
11	In my organization we consider Client credit history and character during Credit Appraisal		.644

INTEREST RATE CHARGED

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.900
Bartlett's Test of Sphericity	Approx. Chi-Square	441.502
	Df	28
	Sig.	.000

	Interest Rate Charged	**Extraction**
1	Our Sacco involves stakeholders in formulating the sensitivity to interest rate policies	.680
2	Our Sacco involves the director in formulating the sensitivity to interest rate policies	.626
3	Our Sacco involves the regulator in formulating the sensitivity to interest rate policies	.621
4	Our Sacco uses the previous challenges to changes in interest rate	.707
5	average rate of interest charged on loan to members in the last 2 years.	.692
6	rate the interest charged is much better as compared to other financial institutions in the county	.536
7	Interest rate charged by your SACCO affect its financial performance	.733
8	For the last five years, the level of inflation has greatly affected our Sacco performance	.678

	Interest Rate Charged	Extraction
1	Our Sacco involves stakeholders in formulating the sensitivity to interest rate policies	.825
2	Our Sacco involves the director in formulating the sensitivity to interest rate policies	.791
3	Our Sacco involves the regulator in formulating the sensitivity to interest rate policies	.788
4	Our Sacco uses the previous challenges to changes in interest rate	.841
5	average rate of interest charged on loan to members in the last 2 years.	.832
6	rate the interest charged is much better as compared to other financial institutions in the county	.732
7	Interest rate charged by your SACCO affect its financial performance	.856
8	For the last five years, the level of inflation has greatly affected our Sacco performance	.824