

**EFFECT OF LIQUIDITY MANAGEMENT ON FINANCIAL
PERFORMANCE OF TIER ONE DEPOSIT TAKING SACCOS IN KENYA**

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DECLARATION AND RECOMMENDATION

This thesis is my original work and has not been presented for examination in any other university.

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DEDICATION

In honor of my family, whose constant love and support have always been there for me while I've pursued my education. Your unwavering support, faith, and hard work have inspired me to accomplish my goal. Ongoing gratitude for your unending tolerance and comprehension throughout this undertaking.

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ABBREVIATIONS AND ACRONYMS

AVE	Average Variance Extracted
CAR	Capital Adequacy Ratio
CFA	Confirmatory Factor Analysis
DT-SACCOS	Deposit-Taking Savings and Credit Cooperative Societies
EFA	Exploratory Factor Analysis
FCFR	Financing Cash Flow Ratio
ICFR	Investing Cash Flow Ratio
SASRA	Sacco Societies Regulatory Authority
MFI	Microfinance Institutions
NCFR	Net Cash Flow Ratio
NIM	Net Interest Margins
NPL	Non-performing Loans
NSE	Nigerian Stock Exchange
NWDT	Non-Withdrawable Deposit Taking
OCFM	Operating Cash Flow Margin
OCFR	Operating Cash Flow Ratio
OLS	Ordinary Least Square
ROA	Return on Asset
SME	Small and Medium-Sized Enterprises
TSA	Treasury Single Account
VIF	Variance Inflation Factor
WOCCU	World Council of Credit Unions

ABSTRACT

All types of companies, including SACCOs, rely heavily on liquidity management to determine how well they do financially. To keep members' trust, satisfy withdrawal requests, and keep operations running, SACCOs must practice excellent liquidity management, as member deposits are the primary source of funds for lending activities. The general objective of the study was to determine the effect of liquidity management on financial performance of tier one DT-SACCOs in Kenya. The specific objectives included: to determine the effect of cash management on financial performance of tier one DT-SACCOs in Kenya, to examine the effect of loan repayment on financial performance of tier one DT-SACCOs in Kenya, to assess the effect of non-core investment on financial performance of tier one DT-SACCOs in Kenya, to determine the moderating effect of regulatory framework on the effect of liquidity management on financial performance of tier one DT-SACCOs in Kenya. The evaluated theories were grounded on the fundamental factors. Trade-off theory, financial intermediation theory, portfolio theory, and institutional theory are the four theories under question. This study used a descriptive research approach. In all, the target audience consisted of 166 individuals, including accountants, credit managers, risk managers, internal auditors, and compliance officials. A stratified sampling technique was used in this study. Primary data was collected mostly through the use of a questionnaire. Furthermore, the researcher not only acquired official approval from the National Council for Research, Science and Technology but also pursued university clearance. The study demonstrated that there was a favorable impact on the financial performance of tier one DT-SACCOs from three distinct objectives: cash management, loan repayment, and non-core investment. The Pearson correlation coefficient between financial performance and cash management is (0.787, $p < 0.01$). The correlation between financial performance and loan repayment is also substantial, with a Pearson correlation coefficient of (0.622, $p < 0.01$). Non-core investment has a moderate positive correlation with financial performance, as indicated by a Pearson correlation coefficient of (0.515, $P < 0.01$). The correlation between financial performance and the regulatory framework is strong, with a Pearson correlation coefficient of (0.644, $p < 0.01$). Managerial Recommendations: Enhance Cash Management Practices, Improve Loan Repayment Processes, Strategically Manage Non-Core Investments, Strengthen Regulatory Compliance and Internal Management. Policy Recommendations: Develop Comprehensive Cash Management Policies, Implement Rigorous Loan Repayment Policies, Establish Strategic Investment Policies for Non-Core Activities and Strengthen Regulatory Compliance Frameworks.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Contributing greatly to economic growth and financial inclusion, SACCOs play an essential role in Kenya's financial environment by offering financial services to consumers and small companies. Therefore, it is essential for policymakers, investors, and SACCO management to comprehend the elements impacting their financial performance (Mwangudza et al., 2020).

According to Wuave et al. (2020), liquidity management stands as a cornerstone of financial institutions' operations, determining their ability to meet short-term obligations while maintaining optimal levels of liquidity to support growth and mitigate risks. For SACCOs, which operate within a dynamic and often volatile financial environment, effective liquidity management is paramount for sustaining operations, ensuring member satisfaction, and safeguarding financial stability (Markonah et al., 2020). Consequently, investigating the impact of liquidity management practices on SACCOs' financial performance holds both theoretical and practical significance (Dwiantari & Artini, 2021).

Rising demand for financial services, regulatory changes, and technology developments have all contributed to the spectacular rise of Kenya's SACCO business in recent years, according to Nurwulandari (2021). New difficulties, such as increased competition, changing member preferences, and the need to comply with regulations, have emerged as a result of this expansion (Asuma, 2022). The significance of effective liquidity

management techniques is highlighted by the fact that SACCOs must delicately balance managing liquidity in the face of changing member deposits, loan demand, and external market circumstances (Ongeri et al., 2021).

It's essential to recognize the unique operating environment of SACCOs in Kenya. Unlike traditional banks, SACCOs operate as member-owned cooperatives, with a primary focus on serving the financial needs of their members rather than maximizing shareholder returns (Katula & Kiriinya, 2022). This cooperative structure inherently influences their approach to liquidity management, as decisions must align with the interests and preferences of their members while ensuring the SACCO's long-term viability and sustainability. Consequently, understanding how liquidity management practices impact both member satisfaction and financial performance becomes crucial in this cooperative framework (Njeru & Tirimba, 2022).

The SACCO sector in Kenya works under the supervision of the Sacco Societies Regulatory Authority (SASRA), which establishes prudential norms and criteria to guarantee the security and stability of SACCO activities (Kimutai, 2022). Adhering to regulatory regulations has a significant impact on both the tactics used to manage liquidity and the broader risk management frameworks and governance structures of SACCOs. Hence, to understand the correlation between liquidity management and financial performance, it is essential to analyze the regulatory dynamics and how they affect the operations of SACCOs (Mwangudza et al., 2020).

Another dimension that warrants exploration is the impact of external factors on SACCO liquidity and financial performance. Kenya's economy is subject to various macroeconomic influences, including changes in interest rates, inflation, and market

liquidity conditions (Ongeri et al., 2021). Additionally, SACCOs often face idiosyncratic risks stemming from their membership base, such as seasonal income fluctuations, agricultural cycles, and local economic conditions (Katula & Kiriinya, 2022). Understanding how these external factors interact with internal liquidity management practices can provide valuable insights into enhancing SACCO resilience and adaptability in a dynamic economic landscape (Asuma, 2022).

1.1.1 Liquidity Management

A SACCO runs the danger of having its revenues or capital eroded if it can't pay its bills when they come due. This is known as liquidity risk. A bank run and the devastating effects of liquidity risk are both possible in the financial industry (Rajan et al., 2023). Inadequate money for operations and members' needs are caused by liquidity problems. This causes SACCOs to incur greater borrowing costs from the repo market, which in turn reduces their profitability (Maaka & Ondigo, 2023). When SACCOs have trouble maintaining sufficient cash on hand, they miss out on lucrative investment possibilities and, in the worst case scenario, go bankrupt. Loss of members due to unfulfilled credit demands is another consequence of a SACCO's inability to repay loans taken out from outside sources, which may be attributed to liquidity issues (Sacco Societies Regulatory Authority[SASRA], 2020). In spite of the high liquidity ratio, many DT-SACCOs fail to pay their members in the near future, especially when it comes to loan payments (Otwoko & Maina, 2021). Employer loan defaults were Kshs 4.31 billion as of December 2020, cutting off SACCOs' access to those funds (SASRA, 2020). Liquidity management plays a pivotal role in shaping the financial performance of organizations, including SACCOs. The relationship between liquidity management and

financial performance has been extensively studied in the context of various financial institutions, with researchers and practitioners alike recognizing its significance in ensuring organizational stability, growth, and profitability (Katula & Kiriinya, 2022). Scholars such as Demirguc-Kunt and Huizinga (2020) have highlighted the importance of liquidity management in mitigating financial crises and enhancing the resilience of financial institutions.

Because of their one-of-a-kind company model and operational setting, liquidity management takes on added significance. Since SACCOs' primary funding comes from member deposits, managing their liquidity well is crucial for keeping members' trust, satisfying withdrawal requests, and keeping the organization running (Asuma, 2022). According to scholars like Muriu (2021), SACCOs should aim for a balance between profitability and liquidity. Too much liquidity might result in poor returns on assets, while too little liquidity can put solvency at risk and damage confidence among members.

The time discrepancy between member contributions and loan disbursements is one of the main obstacles that SACCOs have while managing their liquidity. According to Anania & Gikuri (2015), SACCOs frequently go through periods of unstable funding because of things like changes in member spending and income patterns that occur at different times of the year. Effective asset-liability management methods, proactive liquidity risk management approaches, and strong forecasting tools are necessary for managing these liquidity dynamics. Ongore and Kusa (2013) are among the scholars who have highlighted the significance of SACCO liquidity risk management, arguing that stress testing frameworks, liquidity contingency plans, and liquidity risk regulations are necessary to reduce the impact of possible liquidity shocks.

Furthermore, regulatory compliance adds another layer of complexity to liquidity management for SACCOs. The Sacco Societies Regulatory Authority (SASRA) in Kenya imposes prudential guidelines and liquidity requirements on SACCOs to ensure their financial soundness and stability (Katula & Kiriinya, 2022). Compliance with regulatory standards necessitates SACCOs to maintain adequate liquidity buffers, monitor liquidity ratios, and adhere to reporting requirements (Ongeri et al., 2021). Maingi and Marangu (2021) have examined the impact of regulatory compliance on SACCO liquidity management practices, highlighting the trade-offs between regulatory compliance costs and the benefits of enhanced financial resilience and member protection.

SACCOs must adopt a holistic approach to liquidity management that integrates liquidity risk assessment, strategic planning, and performance monitoring. Djidjik and Muragu (2024) advocated for the development of robust liquidity management frameworks that align with SACCOs' strategic objectives, risk appetite, and member preferences. This entails establishing clear liquidity targets, implementing sound asset-liability management practices, and fostering a culture of liquidity awareness and accountability across the organization (Koech & Kagiri, 2021).

Demirguc-Kunt and Huizinga (2020) conducted a seminal study on liquidity management and financial performance across various financial institutions globally, including banks and credit unions. The research revealed that maintaining adequate liquidity buffers significantly reduced the likelihood of financial crises and enhanced the overall stability of financial institutions. Moreover, they found that institutions with robust liquidity management practices were better equipped to support lending activities during periods of economic downturn, thereby contributing to economic recovery and growth.

Berger and Bouwman (2013) study on liquidity management and bank performance in the United States provided valuable insights into the drivers of liquidity creation and its impact on profitability in mature banking markets. The research revealed that banks with the ability to create liquidity through the transformation of liquid liabilities into illiquid assets tended to exhibit higher levels of profitability. Moreover, the study revealed that banks that effectively managed liquidity risk were able to enhance profitability without compromising financial stability, highlighting the importance of liquidity management in supporting long-term value creation.

With their study of Indian banks' liquidity management techniques and financial performance, Rajan et al. (2023) shed light on the complexities of liquidity risk and how it affects profitability in developing economies. Their research showed that stable financial institutions fared better amid economic downturns and shocks when their liquidity management systems were strong. The need of proactive risk management in attaining sustainable development is further shown by their finding that liquidity management significantly influenced banks' risk-taking behavior and profitability.

Research by Muriu (2022) on the topic of liquidity management and financial performance in Nigerian commercial banks offered hard data on the correlation between liquidity and profitability metrics. His research revealed that banks with higher liquidity ratios tended to exhibit stronger financial performance, as evidenced by higher net interest margins (NIM) and returns on assets (ROA). Moreover, he found that maintaining adequate liquidity buffers was essential for mitigating liquidity risk and ensuring financial stability in the face of external shocks and market volatility.

Researching the effect of liquidity management on financial performance, NMsuku (2020) zeroed down on Tanzanian microfinance institutions (MFIs). According to their research, microfinance institutions (MFIs) that take measures to manage their liquidity, such as setting aside sufficient funds and utilizing a variety of financing sources, outperformed those who do not in terms of financial performance measures. In light of these results, it is clear that liquidity management is crucial for MFIs to be operationally viable and profitable, especially in settings where resources are limited.

Ongore and Kusa (2013) study on liquidity management practices in commercial banks in Kenya yielded insights into the impact of liquidity risk management on financial performance. Their research revealed that banks with proactive liquidity risk management frameworks were better able to navigate liquidity shocks and maintain stability during periods of market turbulence. Additionally, they found that compliance with regulatory liquidity requirements was positively associated with financial performance, highlighting the importance of regulatory oversight in promoting sound liquidity management practices.

Salim et al. (2016) explored the relationship between liquidity management and financial performance in MFIs, shedding light on the unique challenges faced by MFIs in managing liquidity while fulfilling their social mission. Their findings indicated that MFIs with effective liquidity management practices were better able to balance financial sustainability with social outreach, leading to improved performance outcomes. Specifically, they found that MFIs that invested in liquidity management infrastructure and risk mitigation strategies experienced higher levels of financial sustainability and outreach to underserved communities.

Otieno and Odera (2023) research on the role of financial technology (Fintech) in liquidity management and financial performance in Kenyan banks offered insights into the transformative potential of digital innovation in banking operations. Their findings indicated that banks that adopted Fintech solutions, such as mobile banking and digital payments, experienced improvements in liquidity management efficiency and cost-effectiveness. Additionally, they found that Fintech adoption was associated with enhanced financial performance, as banks were able to leverage technology to streamline operations, reduce transaction costs, and expand their customer base.

1.1.2 Financial Performance of DT-SACCOs

Saccos loaned out a total of 680 billion Kshs. to members and received deposits totaling 620 billion Kshs. as of the fiscal year 2022. Saccos often keep adding to their asset base even while their gross loans are rising at a higher rate than their deposits. Some have even managed to bring the gap between the two in a reasonable amount of time. Stima DT Sacco's total assets, for instance, increased from Kshs. 46 billion in 2021 to Kshs. 53 billion in 2022. The good news is that certain Saccos have become financially secure, such as Mentor Sacco and NewFortis, since they have collected deposits that exceed their loaned out amounts. The asset base of Mentor Sacco increased from Kshs. 10.41 billion to Kshs. 11.77 billion last year, while the amount of deposits received was Kshs. 8.91 billion and the amount loaned out was Kshs. 8.68 billion. Also previous year, NewFortis Sacco loaned out 6.76 billion Kenyan cedis and kept 7.49 billion cedis in deposits. In 2021, its total assets were 9.21 billion Kshs; by the end of 2022, they had grown to 10.19 billion Kshs.

When assessing their financial health, DT-SACCOs in Kenya employ a wide range of performance indicators. The total assets to total loans ratio, market share, total loans, net loans and advances, and non-performing loans are all included in these indicators (Munsanje, 2021). In 2017, the DT-SACCOs' financial performance improved somewhat, but it was slower than in prior years. With a growth rate of 12.4%, the total assets of the DT-SACCOs rose from Kshs 393.29 Billion in 2016 to Kshs 442.27 Billion. When compared to the prior year, the asset growth rate was substantially lower. After falling 14.8% the year before, the growth rate plummeted 24% in 2020 (SASRA, 2020).

Financial Sector Regulations states that in 2019, the total assets of all SACCOs that accepted deposits increased by 11.8% to Kshs 555.9 billion. Additionally, growth of 3.2% was recorded in the first half of 2020. Many Kenyan SACCOs have been quite successful financially as of late, with increases in their loan portfolios, deposits, and earnings. Despite the remarkable rise, profitability is low since gross loans made up 73.9% of the total assets (Financial Sector Regulations, 2020). Even if the COVID-19 epidemic presented significant obstacles, the SACCOs Regulatory Authority (SASRA) reported that the industry as a whole had an 8.6% increase in total assets in 2020. (Sacco Societies Regulatory Authority [SASRA], 2022).

The loan portfolio is an important measure of the financial health of SACCOs. The sector's overall loan portfolio increased by 9.4 percent in 2020, reaching 491.7 billion Kshs (SASRA, 2022). The demand for loans, especially from small and medium-sized businesses (SMEs), drove this expansion. Additionally, SACCOs saw an improvement in loan quality as the percentage of non-performing loans (NPLs) decreased from 11.7% in 2019 to 10.2% in 2020 (SASRA, 2022). An additional key metric for SACCOs' financial

health is deposits. Thanks to SACCOs' stepped-up mobilization activities, overall deposits climbed 7.8 percent to Kshs 631.9 billion in 2020 (SASRA, 2022). Another sign of the increasing confidence members have in the sector is the rise in deposits, as more individuals choose to save with SACCOs rather than conventional banks.

Although they are not as strong as banks, SACCOs in Kenya have also been doing really well financially. A 10.2% growth from 2019 to 2020, the industry earned Kshs 22.6 billion in 2020 (SASRA, 2022). Interest income was the main contributor to this rise, making about 83.7% of total revenue. The sector's emphasis on good risk management, careful lending methods, and solid financial management has led to an improvement in profitability.

1.1.3 DT-Saccos in Kenya

Kenyan SACCOs are doing quite well, even though the country's economy is still struggling. Saccos that take deposits (DT) and those that do not (NWDT) are the two main categories into which saccos fall. The SASRA (2022) states that there are 183 NWDT Saccos and 176 DT Saccos in total. A key difference is that unlike non-DT SACCOs, members of DT Saccos may easily access their funds through front office savings activities (FOSA). Out of the 176, 42 are ranked as Tier one Saccos. If a sacco's assets exceed Kshs. 5 billion, it is deemed tier one by SASRA.

With a combined investment of about Kshs.200 billion, SACCOs have contributed over 30% of Kenya's total national savings. Liquidity risk occurs when SACCOs do not possess sufficient funds to repay loans that have been extended (Munsanje, 2021). Over the last decade, SACCO societies have expanded rapidly, and today they make up half of all Co-ops that are officially recognized. In Kenya's Vision 2030, SACCO societies are

recognized as important players in increasing access to credit, which helps to raise capital for investments in enterprises and personal growth (SASCRA, 2020). Liquidity risk, together with credit risk and market risk, must be handled as part of an integrated institution-wide risk management plan if the loan portfolio on the balance sheet is to remain stable and improve. According to Njeru and Tirimba (2022), a SACCO can utilize this data to anticipate its financial requirements and potential risks. Effective management of liquidity risk and credit risk have an impact on the quality and performance of a SACCO's loan portfolio, but the opposite is true: the quality and performance of a SACCO's loan portfolio are unaffected by the management of either risk (Katula & Kiriinya, 2022).

An estimated 24.6 million individuals, or 63% of the population, are involved with SACCO businesses in some way. To reach the aims of greater financial inclusion set forth by vision 2030 and the millennium development goals, the government has taken a strong step toward this end by passing legislation to assist cooperative movements (SASRA, 2022). Interest rates charged by DTSSs to its members on loans and other forms of advanced credit are competitive with those of traditional banks. The significance of DTSSs as a means by which the Kenyan people can access alternative, more affordable loan options is highlighted by this. It also demonstrates that DTSSs have the makings of a lucrative alternate funding mechanism for new businesses and other growth projects (SASRA, 2020).

According to the World Council of Credit Unions (WOCCU), Kenya has the biggest SACCO sector in Africa. In 2019, SACCOs in Kenya had over 2.5 million members, \$1.66 billion in deposits and share capital, and \$1.24 billion in loans (World Council of

Credit Unions [WOCCU], 2020). About 20% of Kenya's savings are held by the SACCO movement, which has assets of about KES 230 billion and a savings portfolio estimated at KES 190 billion. It has been noted that the SACCO business in Kenya makes a significant contribution to the overall financial industry and, by extension, the economy. The sector accounts for more than 45% of the country's GDP. Regulation and oversight of SACCOs have been introduced with the passing of the SACCO Act, 2008 and the subsequent formation of the SASRA (Njeru & Tirimba, 2022). To better oversee SACCOs, the Kenyan government set up SASRA, which reports to the Ministry of Cooperative Development and Marketing. SACCOs are a key component of Kenya's economy, and SASRA aims to reform them while also restoring public trust in the industry (Koech & Kagiri, 2021). In order for the requirements to be effectively enforced, SASRA has been given particular legal authorities to deal with non-compliant SACCO societies. This is crucial because SACCOs cannot be allowed to rely on their own discretion when it comes to compliance. Licensing provides evidence, alongside financial capacity, that a SACCO has the organizational capability (in terms of people, technology, and procedures) to adhere to the license's requirements. Because of the potential for impunity, noncompliance must not be tolerated (Asuma, 2022).

The primary operations of SACCOs, which contribute to their income development, are loan services, investing, and promoting saving culture. According to Ongiri et al. (2021), a significant component of a SACCO's assets are loans made to members. Despite the importance of SACCOs in providing financial services to both rural and urban classes, some of the loans they have extended have not been repaid, leading to declared bad debts and a decline in the overall performance of SACCO loan recovery efforts (Turyahebwa,

2020). Even though there are more than 14 million co-operators in Kenya, it is projected that approximately 30 million people depend on SACCOs for their livelihood in some way, either directly or indirectly (Kilonzi, 2020). By directly employing more than 500,000 individuals, SACCOs have been instrumental in the battle against youth unemployment in Kenya. With 80% of the total savings held in SACCOs, the largest sub-sector in Africa is located in Kenya, where 62% of the continent's assets, 65% of its loans, and 62% of its savings are located (Chege, 2021).

Over 8,500,000 Kenyans are members of one of the 11,200 registered SACCOs, which have pooled over \$2.5 billion in domestic savings. Among them, 230 offer front-office service activities (FOSAs) and 5,000 are SACCOs. Thirty percent of Kenya's savings, or more than Kshs 200 billion, have been pooled by SACCOs (Kimutai, 2022). Ranking seventh globally, Kenya is responsible for 70% of Africa's continental portfolio. One of the nations that makes up the G10 is Kenya (Sitienei & Thuita, 2021).

1.2 Statement of the Problem

Approximately 34% of the country's savings and 24% of the total domestic credit are held in SACCOs' deposit and loan portfolios. The demand for loans from members is far higher than the funds that are available, which is an obvious problem (Sitienei & Thuita, 2021). The government of Kenya has taken a bold step toward achieving the MDGs and Vision 2030 targets of expanding access to financial services by registering more than 6,700 SACCOs. Even though there was a big push from the government, 3,457 SACCOs (or 51% of the total) are still not up and running, which is a major setback for the goal of expanding access to financial services set out in Vision 2030 (Motompa, 2016). Many SACCOs in Kenya continue to struggle financially, leading to their dissolution, even

though SACCO oversight has been stepped up via different means, including the SASRA amendments (SASRA, 2022).

According to SASRA's data, 43 DT SACCOs had their operation licenses revoked between 2014 and 2019 for reasons including severe undercapitalization, non-member and third-party obligation non-payment, and unsustainably large external borrowing (SASRA, 2020). Whether this drop in DTS operations was due to too stringent rules is unclear. So that regulation does not end up costing more than non-regulation, the costs and benefits of regulation should be considered. There are 490 billion Kenyan shillings in savings, or around 33% of the country's total, and several SACCOs have been deregistered by SASRA because they can't maintain financial stability (Kimutai, 2022).

Kenyan Sacco's have been facing concerns regarding their low liquidity ratios. Financial institutions have struggled to consistently meet the 15% monthly legal cashflow ratios, resulting in their reliance on expensive bank loans to resolve the issue (SASRA, 2020). The liquidity ratios in Saccos experienced a decrease from 54.10% in 2017 to 52.68% in 2019. The liquidity concern is a significant issue as stated by SASRA (2020). Out of the 175 authorized Saccos that can accept deposits, 34% were unable to maintain the required 15% threshold. This puts the client deposits at risk of bankruptcy. The problem has persisted without any viable solutions for reliable liquidity management systems.

SACCO societies have a hard time making money. This is because co-operative firms often don't have enough capital and the financial management is lacking. Researchers Mwangudza et al. (2020) found that these problems slow down the expansion of SACCOs' loan portfolios and make it harder to achieve the goals listed above. The savings and credit associations in Kenya are about to go bankrupt due to members' inability to save enough

money and their habit of taking out large loans without paying them back. To add insult to injury, management methods are weak and authorities do not exercise enough control to collect debts extended to members (SASRA, 2020).

On the other hand, the government of Kenya has actively worked towards enhancing financial inclusion through initiatives like Vision 2030, registering over 6,700 SACCOs to expand access to financial services. However, more than half of these SACCOs are non-operational, highlighting a gap between the government's ideal vision of thriving financial institutions and the actual reality where many SACCOs face dissolution due to poor liquidity management and regulatory challenges (Motompa, 2016).

Existing research, while highlighting the complexity of SACCO challenges, fails to fully explore the intersection of liquidity management and regulatory frameworks, leaving a significant gap in understanding how proper liquidity management can bridge the gap between the ideal of financial stability and the actual financial distress faced by SACCOs. Without a comprehensive understanding of these factors, the financial health of SACCOs remains at risk, threatening their contribution to the economy and financial inclusion goals. Scholars like Kimutai (2022), Mwangudza et al. (2020), Sitienei and Thuita (2021), Onger et al. (2021), Asuma (2022), Njeru and Tirimba (2022), and Koech and Kagiri (2021) have studied the effectiveness of SACCOs financially. Using a wide range of variables, these studies have shown that there are many complicated and context-dependent elements that determine whether co-ops succeed or fail. Board tenure, education, and composition have a negative effect on financial hardship (Munene et al., 2020).

1.3 Research Objectives

This study was guided by the following general and specific objectives:

1.3.1 General Objective

To determine the effect of liquidity management on financial performance of tier one deposit taking SACCOs in Kenya.

1.3.2 Specific Objectives

The specific objectives included:

1. To determine the effect of cash management on financial performance of tier one deposit taking SACCOs in Kenya.
2. To examine the effect of loan repayment on financial performance of tier one deposit taking SACCOs in Kenya.
3. To assess the effect of non-core investment on financial performance of tier one deposit taking SACCOs in Kenya.
4. To determine the moderating effect of regulatory framework on the effect of liquidity management on financial performance of tier one deposit taking SACCOs in Kenya.

1.4 Hypotheses of the study

The study was guided by the following hypotheses

H₀₁: Cash management has no significant effect on financial performance of tier one deposit taking SACCOs in Kenya.

H₀₂: Loan repayment has no significant effect on financial performance of tier one deposit taking SACCOs in Kenya.

H03: Non-core investment has no significant effect on financial performance of tier one deposit taking SACCOs in Kenya.

H04: Regulatory framework has no significant moderating effect on the effect of liquidity management on financial performance of tier one deposit taking SACCOs in Kenya.

1.5 Significance of the Study

The study's results have several applications: The results could help with better communication among DTS members, regulatory agencies, researchers, and management.

1.5.1 Policy Makers

The significance of sound liquidity management procedures for SACCOs would be better understood by Kenyan regulators and lawmakers thanks to the results of this study. Given the importance of SACCOs to the country's financial inclusion objective, this might pave the way for the creation of specific regulations and standards to strengthen their financial footing and longevity.

1.5.2 SACCO Management

The study sheds strategic light on the importance of liquidity management for SACCO managers' and decision-makers' overall financial success. To improve operations, eliminate financial risks, and strengthen competitive position, SACCOs can benefit from understanding how liquidity management techniques affect key performance metrics.

1.5.3 Researchers and Academicians

Research in the fields of financial management and cooperative studies is enhanced by this study. This study addresses a knowledge vacuum in the literature by investigating the

connection between SACCOs' liquidity management practices and their financial success. The findings will be useful for both academics and practitioners in the field.

1.5.4 Stakeholders

By learning more about the relationship between liquidity management techniques and financial results, SACCO members, investors, and others may reap the benefits of better SACCO management. When stakeholders have this information, they may make better decisions about how they want to be involved in SACCOs, whether that's by depositing cash, investing in shares, or volunteering for governance roles.

1.6 Scope of the Study

Tier one DT SACCOs in Kenya had their financial performance evaluated to see how liquidity management impacts them. The SACCOs that accept deposits and are listed on the SASRA website are the ones from which the sample was drawn from. The research took place from April to June of 2024. Only DT SACCOs in the first tier were included in this analysis. Additionally, the scope was constrained to the variables that are explicitly listed as objectives of the research.

1.7 Limitation of the Study

The quantity and quality of information about SACCOs' liquidity management and financial performance is a potential barrier. The findings may not be as accurate or reliable as they may be due to a lack of access to complete financial data or differences in reporting standards across SACCOs. It can be challenging to isolate the specific impact of liquidity management on financial performance, as other factors may also influence SACCOs' financial outcomes. Economic conditions, regulatory changes, management practices, and competitive pressures are examples of confounding variables that could affect the results.

Defining and measuring liquidity management and financial performance variables accurately posed challenges. Different SACCOs used varying liquidity metrics, and financial performance, including profitability, asset quality, and capital adequacy. Ensuring consistency and comparability in measurement across SACCOs is essential but may be challenging.

1.8 Delimitation of the Study

The study utilized only publicly available financial data from reputable sources, such as regulatory agencies or industry reports. Acknowledge that the study's findings are contingent upon the reliability and completeness of the available data and may not fully capture the nuances of liquidity management practices and financial performance within SACCOs. The study only utilized a specific subset of tier one DT-SACCOs based on predefined criteria, such as asset size or geographical location, to ensure a manageable sample size and enhance the representativeness of the findings within the selected subset. Acknowledge that the findings may not generalize to the entire population of SACCOs in Kenya.

The study focused primarily on the relationship between liquidity management metrics and financial performance indicators within SACCOs, while acknowledging the potential influence of confounding variables such as economic conditions and regulatory changes. Control for confounding variables to the extent feasible within the study design.

The study used standardized liquidity management and financial performance metrics commonly employed within the SACCO industry, acknowledging the limitations of these metrics in capturing the full spectrum of liquidity dynamics and financial outcomes. The

study also provided transparency regarding the measurement methodologies used and potential sources of measurement error or bias.

1.9 Assumptions of the Study

The study was predicated on the idea that different Saccos practice active liquidity management. The respondents were able to give appropriate, truthful information for analysis. In addition, the survey questions and other data gathering tools recorded the essentials that would let the research uncover the worries about saccos' deteriorating financial performance.

1.10 Operational Definition of Key Terms

The research was based on the following basic terms as defined.

Cash Management: Involves overseeing the inflow and outflow of funds to ensure liquidity, optimize returns, and maintain financial stability (Kimutai, 2022).

Financial Performance: The evaluation of how well a company or organization manages its finances to achieve its objectives and generate returns for its stakeholders (Dzapasi, 2020).

Loan Repayment: The process by which a borrower returns borrowed funds to the lender according to the terms and conditions of the loan agreement (Pattiruhu & Paais, 2020).

Non-Core Investment:

Involves allocating funds to assets or ventures that are not directly related to their core function of providing savings and credit services to members (Sonia & Khafid, 2020).

Regulatory Framework: A formal framework put in place by a government or regulatory body to control the actions and behaviors of people, businesses, and other entities operating inside its borders (Oudat & Ali, 2021).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Theoretical and empirical works were covered in this section. The conceptual framework and study variables chosen from the theoretical review. Tier one DT SACCOs in Kenya had their financial performance mediated by the regulatory environment, and the conceptual framework showed the connection between liquidity management and financial performance.

2.2 Theoretical Framework

Theoretical frameworks are sets of interconnected ideas that researchers use to pick which variables to test (Abu-Bader, 2021). A theory is defined by Halperin and Heath (2020) as an intelligible set of assertions about a phenomenon that can be supported by evidence.

Key factors form the basis of the hypotheses that have been examined. These theories are trade-off theory, financial intermediation theory, portfolio theory and institutional theory.

2.2.1 Trade-off Theory

The idea of trade-offs, which is central to financial management (Quansah & Opoku, 2023), explains how decisions are made by weighing the potential benefits and costs. This theory, which was developed in the 1950s by Merton Miller and Franco Modigliani, helps us understand the ideal capital structure for businesses by comparing the pros and cons of debt financing. A strong foundation for efficient cash management that improves financial performance is provided by Trade-off Theory (Ryviana & Krisnawati, 2023).

Ahamed (2021) opined that SACCOs face the perpetual challenge of maximizing returns for their members while mitigating risks associated with liquidity shortages. Trade-off theory posits that SACCOs must strike a balance between holding excess cash reserves to meet withdrawal demands and investing surplus funds to generate income. By adhering to this principle, SACCOs can optimize their cash management strategies to achieve optimal financial performance (Budhathoki et al., 2020).

According to Kafidipe et al. (2021), trade-off theory underscores the importance of liquidity management in SACCOs' financial sustainability. While maintaining ample liquidity safeguards against potential insolvency risks, excessive cash holdings can lead to opportunity costs by foregone investment returns. Hence, SACCOs must judiciously allocate their cash resources to balance liquidity needs with income-generation objectives, thereby maximizing shareholder value (Sani, 2023).

Trade-off theory emphasizes the trade-offs between risk and return inherent in SACCOs' investment decisions. By diversifying their investment portfolios across different asset

classes, SACCOs can mitigate specific risks while capitalizing on opportunities to enhance returns (Yakura et al., 2023). However, this diversification strategy entails trade-offs, as higher-risk investments may yield greater returns but expose SACCOs to increased volatility and potential losses (Hidayat & Dewi, 2023).

According to Airout et al. (2023), trade-off theory advocates for efficient capital allocation to optimize SACCOs' financial performance. By evaluating the costs and benefits of various funding sources, including member deposits, equity, and debt financing, SACCOs can determine the most cost-effective capital structure. Balancing the advantages of leverage with the associated risks, SACCOs can enhance their profitability and solvency while minimizing financial distress (Al Zaidanin, 2020).

According to Santosa et al. n (2020), trade-off Theory highlights the importance of aligning cash management strategies with SACCOs' long-term financial goals and risk tolerance levels. While short-term liquidity needs necessitate maintaining adequate cash reserves, SACCOs should also focus on deploying surplus funds in income-generating investments to support sustainable growth and member value creation over time (Djebali & Zaghdoudi, 2020). In addition, trade-off theory emphasizes the dynamic nature of cash management in response to changing market conditions and regulatory requirements. SACCOs must continuously reassess their cash position and adjust their investment strategies accordingly to optimize returns while ensuring liquidity adequacy and regulatory compliance. This iterative process enables SACCOs to adapt proactively to evolving financial landscapes and sustain their competitive edge (Mazengo & Mwaifyusi, 2021).

When it comes to SACCOs' cash management techniques, Putri and Wiksuana (2021) state that trade-off theory stresses the need of good governance and risk management. One way SACCOs may reduce operational, financial, and reputational risks related to cash management is by putting in place strong internal controls, clear reporting systems, and careful risk management frameworks (Menon et al., 2021).

Finally, to improve cash management methods and boost financial performance, Trade-off Theory offers a complete framework for tier one deposit-taking SACCOs in Kenya. In order to achieve their goals of meeting the financial requirements of its members and maximizing shareholder value, SACCOs must carefully examine liquidity, risk, and return when allocating their capital resources. In order to succeed in the ever-changing Kenyan financial scene, SACCOs must be nimble and resilient, and Trade-off Theory provides the framework they need to do just that.

2.2.2 Financial Intermediation Theory

Financial intermediation theory, which gained prominence through the works of scholars like Eugene Fama and Jack Hirshleifer in the 1960s, provides a robust framework for understanding the dynamics of loan repayment within deposit-taking SACCOs in Kenya (Nurwulandari, 2021). SACCOs act as intermediaries between savers and borrowers, collecting funds from members through savings deposits and channeling these funds to borrowers in the form of loans. According to the theory, the financial performance of SACCOs is intricately linked to their ability to effectively manage the repayment of these loans (Keeratisontorn & Keattanasak, 2023).

One key aspect highlighted by financial intermediation theory is the importance of credit risk management in loan repayment. SACCOs must assess the creditworthiness of

borrowers and mitigate the risk of default through prudent lending practices (Charles & Mori, 2022). This involves conducting thorough credit assessments, verifying borrowers' income and repayment capacity, and implementing risk-based pricing strategies to reflect the level of risk associated with each loan. By effectively managing credit risk, SACCOs can minimize loan defaults and enhance their financial performance (Dahiyat et al., 2021).

According to Feng et al. (2020), financial Intermediation theory underscores the role of information asymmetry in loan repayment dynamics. Borrowers may possess more information about their financial situation and repayment prospects than lenders, leading to adverse selection and moral hazard problems (Doan & Bui, 2021). SACCOs must address these information asymmetries through information gathering, monitoring, and screening mechanisms to ensure that loans are extended to creditworthy borrowers with the ability and willingness to repay. By reducing information asymmetry, SACCOs can improve loan quality and repayment rates, thereby enhancing their financial performance (Mobarak, 2020).

Financial intermediation theory emphasizes the importance of incentives and monitoring in promoting loan repayment. SACCOs can align the interests of borrowers and lenders by implementing incentive structures that reward timely repayment and penalize defaults (Kaharuddin & Yusuf, 2022). Additionally, SACCOs can enhance loan monitoring and enforcement mechanisms to detect early signs of repayment difficulties and take proactive measures to address them (Effiong & Ejabu, 2020). By providing the right incentives and monitoring mechanisms, SACCOs can incentivize borrowers to honor their repayment obligations, thereby improving overall loan repayment rates and financial performance (Zidan, 2020).

Another aspect highlighted by Financial intermediation theory is the role of collateral and loan security in loan repayment. SACCOs can mitigate the risk of default by requiring borrowers to provide collateral or guarantees to secure their loans (Jihadi et al., 2021). According to Abdulnafa et al. (2022), collateral serves as a form of commitment device, incentivizing borrowers to repay their loans to avoid the loss of valuable assets. Moreover, SACCOs can use collateral to recover losses in the event of default, thereby reducing the financial impact of non-performing loans on their overall financial performance (Reschiwati et al., 2020).

Financial intermediation theory underscores the importance of liquidity management in loan repayment dynamics. SACCOs must ensure that they maintain sufficient liquidity to meet members' withdrawal demands while also honoring their loan repayment obligations (Sathyamoorthi et al., 2020). Effective liquidity management involves balancing the timing and maturity of assets and liabilities to ensure that SACCOs have enough liquid resources to cover their short-term obligations (Nugraha et al., 2023). By managing liquidity effectively, SACCOs can avoid liquidity crises and maintain their ability to fulfill loan repayment obligations, thereby safeguarding their financial performance (Al Zaidanin & Al Zaidanin, 2021). Sitienei and Thuita (2021) elucidate that financial intermediation theory highlights the role of regulatory oversight and governance in loan repayment dynamics. SACCOs are subject to prudential regulations and supervision by regulatory authorities such as the SASRA. Regulatory compliance ensures that SACCOs adhere to sound lending practices, maintain adequate capital and reserves, and implement robust risk management frameworks.

In conclusion, Financial Intermediation Theory offers valuable insights into the dynamics of loan repayment within tier one DT SACCOs in Kenya. By emphasizing the importance of credit risk management, information asymmetry, incentives, collateral, liquidity management, regulatory oversight, and governance, the theory provides a comprehensive framework for understanding the factors influencing loan repayment behavior and their implications for SACCOs' financial performance. By applying the principles of financial intermediation theory, SACCOs can enhance their ability to manage loan repayment effectively, minimize credit risk, and achieve sustainable growth in the dynamic financial services landscape of Kenya.

2.2.3 Portfolio Theory

Portfolio Theory, developed by Harry Markowitz in the 1950s, offers valuable insights into the rationale behind non-core investments and their impact on financial performance (Ruhana & Hidayah, 2020). At its core, portfolio theory emphasizes diversification as a means to optimize risk-adjusted returns. SACCOs, akin to other financial institutions, are tasked with safeguarding member deposits while maximizing returns. In pursuit of this objective, SACCOs construct investment portfolios comprising a mix of core and non-core assets (Sidhu et al., 2023). Core assets typically include loans and member deposits, while non-core investments encompass a broader range of securities such as equities, bonds, and real estate (Nworie et al., 2023).

SACCOs face inherent risks associated with their core operations, including credit risk, interest rate risk, and liquidity risk. Portfolio theory posits that by diversifying their investments across different asset classes, SACCOs can mitigate these risks and enhance overall financial performance (Abuga et al., 2023). According to Quansah and Opoku

(2023), non-core investments play a crucial role in this diversification strategy, as they offer alternative sources of income that are less correlated with the performance of core activities. For instance, investing in real estate or securities markets can provide SACCOs with additional revenue streams that are independent of fluctuations in interest rates or loan defaults (Nworie et al., 2023).

Portfolio theory advocates for the efficient allocation of resources based on risk-return trade-offs. SACCOs, endowed with substantial financial resources and a large member base, are well-positioned to capitalize on opportunities presented by non-core investments (Nugraha et al., 2023). By allocating a portion of their funds to non-core assets with higher expected returns, SACCOs can potentially enhance overall portfolio performance without significantly increasing risk. However, prudent risk management practices, informed by Portfolio Theory principles, are essential to ensure that non-core investments align with SACCOs' risk tolerance and financial objectives (Kafidipe et al., 2021).

Portfolio theory underscores the importance of asset allocation and portfolio rebalancing in response to changing market conditions. SACCOs must continuously monitor their investment portfolios and adjust allocations to maintain an optimal balance between core and non-core assets (Ahamed, 2021). In dynamic market environments, where interest rates fluctuate and economic conditions evolve, SACCOs may strategically reallocate resources to capitalize on emerging opportunities or mitigate emerging risks (Putri & Wiksuana, 2021). This proactive approach to portfolio management, guided by portfolio theory principles, enables SACCOs to adapt to changing circumstances while safeguarding member interests and optimizing financial performance (Bintara, 2020).

Portfolio theory recognizes the role of market efficiency in shaping investment decisions. SACCOs operate within a competitive financial landscape characterized by information asymmetries and varying degrees of market efficiency (Putri & Wiksuana, 2021). Non-core investments offer SACCOs the opportunity to capitalize on market inefficiencies or exploit niche opportunities that may be overlooked by mainstream financial institutions (Kiehela & Falkenbach, 2022). Whether through direct investments in emerging sectors or participation in alternative investment vehicles, SACCOs can leverage their local knowledge and expertise to generate alpha and enhance portfolio returns (Djebali & Zaghdoudi, 2020).

Portfolio Theory advocates for a holistic approach to risk management that considers both systematic and unsystematic risks. SACCOs must assess the risk profiles of their investment portfolios comprehensively, taking into account factors such as asset class correlations, volatility, and liquidity constraints (Menon et al., 2021). Non-core investments introduce unique risks that must be carefully evaluated and managed to protect SACCOs' financial stability and reputation (Ruhana & Hidayah, 2020). Through rigorous risk analysis and portfolio stress testing, SACCOs can identify potential vulnerabilities and implement mitigation strategies to safeguard member funds and preserve long-term sustainability (Adebisi, 2021).

Portfolio Theory emphasizes the importance of portfolio performance evaluation and benchmarking to gauge investment effectiveness (Kiehela & Falkenbach, 2022). SACCOs must establish clear performance metrics and benchmarks against which to assess the success of their non-core investments. By comparing actual portfolio returns to relevant market indices or peer group averages, SACCOs can identify areas of strength and

weakness and make informed decisions to optimize portfolio allocation and enhance financial performance (Cheng & Hollie, 2020). Additionally, regular performance reporting and transparency foster trust and confidence among SACCO members, reinforcing the institution's reputation and credibility in the marketplace (Ruhana & Hidayah, 2020).

In conclusion, portfolio theory provides a robust framework for understanding the role of non-core investments in the financial performance of tier one DT-SACCOs in Kenya. By embracing diversification, efficient resource allocation, proactive risk management, and performance evaluation, SACCOs can harness the benefits of non-core investments while safeguarding member interests and achieving long-term sustainability. However, prudent decision-making and adherence to Portfolio Theory principles are essential to navigate the complexities of financial markets and maximize the value proposition for SACCO members.

2.2.4 Institutional Theory

Institutional theory, developed primarily by sociologists such as Meyer and Rowan in the 1970s, provides a robust framework for understanding how organizations, including tier one DT-SACCOs, conform to institutional norms and regulations to gain legitimacy and ensure survival within their environment (Munsanje, 2021). In the SACCO sector, the regulatory framework plays a pivotal role in shaping the financial performance of these institutions. SACCOs operate within a highly regulated financial landscape governed by laws, policies, and guidelines set forth by regulatory bodies such as the SASRA and the Cooperative Societies Act (Koech & Kagiri, 2021). Compliance with these regulations is not merely a legal requirement but also a means for SACCOs to demonstrate their

legitimacy and trustworthiness to members, investors, and other stakeholders (Essien & Umo, 2023).

The institutional environment in the SACCO sector is characterized by a set of formal and informal rules, norms, and practices that influence organizational behavior and outcomes. Tier one SACCOs, being prominent players in the financial market are particularly sensitive to the institutional pressures exerted by regulatory bodies and other stakeholders (Adebisi, 2021). Adherence to regulatory requirements regarding capital adequacy, risk management, governance, and financial reporting is essential for tier one SACCOs to gain and maintain legitimacy in the eyes of regulators, members and the public. Failure to comply with these regulations can lead to reputational damage, loss of trust, and even sanctions or closure, thereby undermining financial performance and sustainability (Kiehela & Falkenbach, 2022).

Institutional theory highlights the importance of isomorphism, whereby organizations mimic the structures, processes and practices of other legitimate institutions in their field (Essien & Umo, 2023). In the case of tier one SACCOs, regulatory compliance acts as a mechanism for achieving isomorphic legitimacy. By adhering to the same regulatory standards as other financial institutions such as banks, SACCOs signal their credibility and professionalism to members and investors (Njeru & Tirimba, 2022). This legitimacy, in turn, enhances the SACCOs' ability to attract deposits, secure funding, and expand their operations, thereby contributing to improved financial performance and competitive advantage in the market (Baidoo et al., 2020).

The institutional environment in Kenya's SACCO sector is dynamic, characterized by ongoing changes in regulatory requirements, market conditions, and socio-political factors

(Al Zaidanin & Al Zaidanin, 2021). SACCOs must continuously adapt their strategies, structures, and processes to comply with evolving regulations and meet the expectations of regulators and stakeholders. This process of institutional adaptation involves not only formal compliance but also the internalization of regulatory norms and values within the organizational culture (Almomani et al., 2021). SACCOs that successfully integrate regulatory requirements into their operations are better positioned to navigate uncertainties, mitigate risks and capitalize on opportunities, thereby enhancing their financial performance and resilience over time.

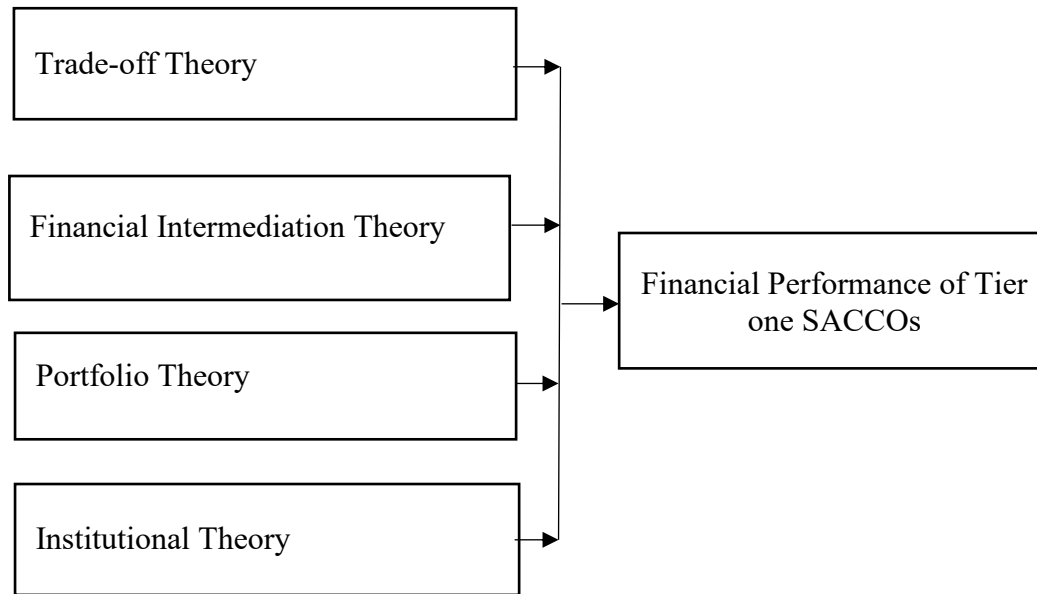
Ongeri et al. (2021) posit that institutional theory emphasizes the role of legitimacy as a key resource that organizations mobilize to gain support and resources from external stakeholders. SACCOs rely on their legitimacy as trusted financial intermediaries to attract deposits, investments and partnerships with other institutions (Asuma, 2022). Regulatory compliance serves as a critical tool for building and maintaining this legitimacy by demonstrating transparency, accountability and adherence to ethical standards. SACCOs that are perceived as legitimate entities are more likely to enjoy the confidence of members, regulators, and investors, leading to increased patronage, financial stability, and long-term growth (Koech & Kagiri, 2021).

In conclusion, institutional theory offers valuable insights into the regulatory framework governing tier one DT-SACCOs in Kenya and its impact on financial performance. By examining the dynamics of institutional pressures, isomorphism, legitimacy, institutional logics, and institutional entrepreneurship, we can better understand how SACCOs navigate regulatory compliance, adapt to changing environments, and achieve success in the marketplace. This theoretical perspective underscores the complex interplay between

formal regulations, informal norms, and organizational strategies, highlighting the importance of regulatory legitimacy as a driver of financial performance and sustainability in the SACCO sector.

Figure 2.1

Theoretical Framework



2.3 Empirical Literature Review

2.3.1 Cash Management and Financial Performance

Sitienei and Thuita (2021) looked at the cash management techniques of DT SACCOs in Kenya and how well they did financially. A detailed examination was conducted on 135 deposit-taking SACCOs that had gained licenses in Kenya by 2013. The study's participants were selected using a purposive sampling technique. In order to evaluate the influence of cash management on their financial performance, 56 out of 135 deposit-accepting SACCOs registered in Kenya were included in the sample. The data was collected over the course of five years, from 2013 to 2017. The data was sourced from the

audited financial records of each SACCOs, which can be seen on SASRA's website. A pair of linear regression models were employed by the researcher to ascertain the relationship between cash management and financial performance. We performed significance checks using t-tests for the independent variables and F-tests for the overall model at the 5% level of significance. The study determined that cash management significantly improved both ROA and ROE, with p-values of 0.001 and 0.505 for ROA and 0.332 and 0.001 and 0.001 for ROE, respectively. The study found that SACCOs that accepted deposits fared better financially when they maintained a larger cash balance.

Koech and Kagiri (2021) found that cash management affected the financial performance of non-financial enterprises listed on the NSE. A financial performance evaluation was possible with the use of ROA and NPM; this performance served as the dependent variable. The study's findings linked good cash management to monetary success. For non-financial enterprises listed on the NSE, the results indicate that cash management can be a predictor of profitability. The study model relied on panel regression analysis when a moderator was present. Models with fixed effects or random effects were used when a moderator was not present. After enhancing their cash management, businesses trading on the NSE noticed a significant boost in their bottom lines. Firm size significantly moderated the relationship between financial success and listing on the Nairobi Securities Exchange.

Peter et al. (2020) conducted an experimental investigation of the effects and ramifications of DMBs' cash management in Nigeria. This study includes a plethora of supplementary variables, such as ROA, cash management proxies, bank size, age, operational cash to total asset, financing cash to total asset, and cash to total asset. The financial statements and annual reports of the participating DMBs, spanning the years 2014–2018, provided

the secondary data used in this study. A DMB's financial performance is positively and statistically significantly affected by variables like age and the ratio of financing funds to total assets. There is no statistically significant relationship between bank size, operational cash to total assets, or investment cash to total assets. Nonetheless, the cash-to-total-asset ratio is seen by some businesses as a key indicator of their financial health. According to the research, if you want to keep liquidity risk from producing more problems, you need to manage your cash levels well. This study's findings highlight the need to keep a careful eye on Nigerian banks' cash flow and reserves. The study's conclusions suggest that banks should adopt a more efficient and effective cash management approach. In order to encourage efficient liquidity management measures, it is essential to reevaluate the present strong regulatory constraints in this area.

An analysis of the cash management practices and financial performance of manufacturing organizations was conducted by Essien and Umo (2023) using ten (10) listed industrial products corporations from the Nigeria Exchange Group between 2017 and 2021. The research use cash balances, cash conversion cycle, and cash turnover as surrogates to assess the effect of cash management strategies on financial result. Regression analysis known as Ordinary Least Square (OLS) was employed to examine the data. The study's methodology was retrospective. The study indicated that the cash balances method had minimal impact on financial performance for companies dealing in industrial items in Nigeria. The research also showed that businesses selling industrial items in Nigeria weren't financially impacted by the cash conversion method. Financial results of Nigerian businesses dealing in industrial commodities are thus significantly affected by the cash turnover strategy. Companies in Nigeria that deal in industrial

products have their financial performance impacted by cash management practices. Secondly, Nigerian companies that deal in industrial goods don't let their cash holdings or cash conversion techniques affect their financial performance much. Thirdly, the financial success of Nigerian enterprises dealing in industrial commodities is greatly impacted by cash turnover. Since cash levels have a negligible impact on financial performance, it was suggested that industrial business management minimize them. Companies dealing in industrial products would do well to listen to their managers' advice and work to shorten their cash conversion cycle; doing so would have a favorable effect on their bottom line.

The purpose of the study by Major and Azali (2022) was to analyze Unilever Tea Limited's financial performance in relation to cash management. A foundational principle of the study was the notion of liquidity performance. One hundred fifty workers representing upper, medium, and lower management levels were the intended subjects of the cross-sectional study. Following the scientific method laid out by Yamane (1967) a total of 109 respondents were surveyed. Research participants were chosen using a combination of basic random selection and selective sampling. Multiple sources of information were considered for the study. A structured questionnaire was used to gather primary data, while records from Unilever Tea Limited were used for secondary data collection. The results proved that the tea industry's financial performance is positively affected by cash management. The study found that the tea manufacturers' efficiency was improved by better financial management. Efficient cash management and planning were the primary factors affecting financial performance. According to the research, proper credit management, cash planning, and audits of cash are necessary to guarantee a steady supply of working capital.

Nadaf and Navi (2021) highlighted the significance of cash management practices and attempt has been made to determine the extent of implementation of these practices in select units of the Belur industrial area. Dharwad is a major centre of education in north Karnataka and is known for attracting more industries. The findings of the study revealed that most of the respondents were agreeing to the cash management practices and were practicing in their respective units but with varying levels of agreements. Hence it is understood that cash management practices are most important in promoting the business by improving financial performance. Success of MSMEs mainly depends on strict control and proper management of cash practices.

For Kamuge High School, Osako (2020) analyzed the impact of cash management strategies on the school's financial results. Underlying the investigation were the following objectives: Impacts of audits, internal control systems, and cash budgeting on Kamuge High School's financial performances. Primary data for the study came from 42 participants who were administrators of public secondary schools in the Pallisa district; secondary data came from a descriptive survey study that employed stratified sampling. Precious descriptive statistics were comprised of percentages and frequencies. The results show that cash budgeting does affect the financial success of schools. Financial results at public secondary schools are significantly affected by the presence or absence of internal control mechanisms. The survey suggests that schools maintain up-to-date accounting records because most respondents were dissatisfied with their school audits. This is important because institutions risk losing money and other important information due to poor record keeping. Schools can implement record keeping systems, such as record

keeping software, to effectively track expenses, debts, and creditors, as well as to save time and accounting costs.

Etim et al. (2022) examined the links between cash flow management and the bottom lines of publicly traded Nigerian companies. This was driven by the fact that the literature presents conflicting assertions and conclusions on the correlation between cash flow management and the financial success of businesses. In this study, researchers looked back at secondary data collected from 63 companies that were listed on the Nigerian Stock Exchange (NSE) between 2013 and 2019. Panel data was the basic kind of data. A financial performance metric that is used for analysis is Return on Asset (ROA). Operating cash flow margin (OCFM), operating cash flow ratio (OCFR), investment cash flow ratio (ICFR), financing cash flow ratio (FCFR), and net cash flow ratio (NCFR) stand as the independent variables. The data showed that among the listed corporations in Nigeria, OCFM, OCFR, ICFR, and NCFR all significantly impacted financial performance (ROA) positively, whereas FCFR had a somewhat negative influence. To better comprehend their relationship and perform their statutory obligations to maintain entities' long-term viability, the study's fundamental variables of cash flow management may be used by entity managers, lawmakers, financial advisors, and regulatory authorities.

2.3.2 Loan Repayment on Financial Performance

Baidoo et al. (2020) looked at how financial literacy may affect people's ability to repay loans. The research used primary data and analyzed it using binary probit regression. Paying back loans is positively and significantly correlated with financial literacy, according to the research. This suggests that there is a direct correlation between increased financial literacy and better loan payback rates, which bode well for the long-term viability

of financial institutions. It turns out that borrowers' educational background is a major factor in how well they pay back their loans. Based on the results, the study illuminate's new avenues for enhancing loan repayment in order to maintain a robust banking industry.

Borrowers at Wondo Genet Woreda, Ethiopia's Omo Microfinance Institution were the subjects of an investigation by Mohammed and Wobe (2023) on the variables influencing loan repayment performance. The research made use of both original and secondary sources of information. Two hundred and fifty borrowers from Omo Microfinance provided the necessary information. Utilizing a stratified random selection approach, the respondents were chosen. Analyses were conducted using both quantitative and qualitative methodologies. The survey found that over half of the borrowers in the area did not return their loans in accordance with their agreed-upon repayment schedules. Factors like borrowers' sex, degree of education, family size, amount borrowed, repayment period, timing of loan payments, and advisory visit all had a role in the success or failure of repayment.

Ndiege (2015) looked at the financial ratios that describe SACCOS's ability to repay loans and how well SACCOS are able to recover the loan amount. According to the research, SACCOS in Tanzania have a major issue with financial risk management. While a focus on sustainability can greatly increase loan repayment, a focus on profitability in SACCOS actually makes loan payback worse. The study found that SACCOS should prioritize the maximization of member wealth and the viability of the institution over profit. In addition to more conventional methods of addressing financial risk, the research recommends taking into account more contemporary risk management tools, such as credit scoring, when assessing potential borrowers.

Katula and Kiriinya (2018) examined the financial performance and loan repayment records of commercial banks in Kenya. In particular, we aimed to learn how the Central Bank of Kenya's policies and credit ratings influence the link between financial performance and the operations of commercial banks in Kenya. The researcher opted for a descriptive study. The study polled 43 separate Kenyan commercial banks for this study. The research aimed to reach 124 individuals working in Busia County's commercial banks' credit and finance departments. Loan repayment histories, present balances, and durations of credit have a favorable and statistically significant relationship with commercial banks' financial performance. We reject the null hypothesis regarding credit rating information because it influences the financial performance of Kenyan commercial banks. East African Reserve Bank There was a strong moderating effect of credit rating procedures on the correlation between clients' track records of loan repayment and their financial outcomes. As a result, the research concluded that credit rating data should include details on whether or not a borrower paid back their loans on time, as well as details about when and why they were late, to better represent their default patterns.

Njeru (2020) studied DT SACCOs in Mount Kenya Region to find out how loan repayment affected their financial performance. Thirty SACCOs in Mount Kenya Region that are licensed to take deposits were the intended recipients. The sampling approach utilized was simple random sampling, and the sample size was 92 respondents. To collect primary quantitative data, individuals were asked to fill out structured questionnaires independently. Additional information was retrieved from the audited financial accounts of the SACCOs and SASRA. By analyzing the collected data using descriptive and inferential statistics, the study was able to reach its objectives. A decrease in credit

exposure and the implementation of sector-wide credit standards by regulators would benefit the SACCOs and guarantors in the industry, according to the report. Guarantors ought to bear an outsized amount of the credit risk due to the industry's fast expansion. Sector institutions in Kenya should improve their credit management systems if they want to remain competitive in the country's financial market.

Muhammad et al. (2021) used a mediating model to examine the characteristics of loans, loan repayment, and the performance of small and medium companies in Kano city. As a stand-in for additional loan characteristics, loan size and term were utilized. Information was collected from 108 individuals using a basic random sampling technique and a structured questionnaire. To search for trends, we employed statistical methods including multiple regression and correlation analysis. Payback of a loan is positively and statistically associated with the loan's quantity and length, according to the study. Small and medium-sized business performance was also shown to mitigate the relationship between loan amount, loan term, and payback. According to the study, financial institutions can help small and medium-sized businesses improve their repayment performance by adjusting loan sizes and repayment terms based on the borrower's cash pattern (income). Otherwise, they should keep the loan sizes and durations average.

Katula and Kiriinya (2022) examined the efficiency and profitability of deposit-accepting credit and savings cooperatives in Embu County, Kenya, as well as their loan payback rates. The study employed a descriptive research technique and collected data from 250 participants at 10 SACCOs in Embu County, Kenya. After applying Slovin's technique, 158 out of 250 individuals were considered for the study's sample size. The research used both primary and secondary resources. For the main data set, questionnaires were

distributed using the "drop and pick later" method. Secondary data was gathered by perusing pre-existing sources, including pertinent empirical research and financial accounts. The independent variables include things like client attributes, loan follow-up procedures, interest rates, and loan evaluation. Embu County, DT SACCOs' financial performance is the dependent variable. The data analysis showed that these variables are statistically related. The study found that SACCOs will have a hard time attaining financial performance unless they adopt models that minimize financial risks. These models include loan assessment, interest rates, methods for following up on loans, and customer characteristics models. The report suggests that SACCOs should pay attention to bad loans and look into lending regulations to make sure people pay back their loans when they're supposed to.

The repayment risk linked to loans made by microfinance institutions (MFIs) in India was the primary subject of Sangwan et al. (2020) research. It reveals characteristics that likely to generate payback disparities between low-income and high-income client families while pinpointing the causes of loan default. Using logistic regression and descriptive statistics, we examine primary data from 498 homes across two Indian states. Homeowners with poor incomes, high levels of debt, and high loan diversion rates are more likely to default, according to the study's results. Individuals who are more financially literate, who also have a strong sense of community and shared responsibility, are less prone to engage in criminal behavior. One of the most important causes of loan default is the lack of oversight by MFIs. It is possible, nevertheless, that the prejudices of MFIs against poverty lending are exaggerated. The inclination to repay can be enhanced with adequate supervision and steps to prevent wasteful use of loans.

2.3.3 Non-Core Investment and Financial Performance

Asuma (2022) proved that DT-SACCOs in Kenya suffered financially due to investments that weren't directly related to their main activity. Finding out what makes deposit-taking SACCOs in Kenya tick financially when it comes to investments in FOSA products, treasury bills, stocks, property, and fixed deposits was the driving force behind this study. Investment, agency, pecking order, and resource-based theories (as well as neoclassical and Q theories), among others, provided the theoretical underpinnings for this study. This investigation made use of a descriptive research strategy. This study aimed to examine the 174 SACCOs in Kenya that took deposits. To go through the secondary data, we employed descriptive statistics, panel data regression, and correlation analysis. According to the research, deposit-taking SACCOs in Kenya may greatly influence their financial success by investing in FOSA products, treasury bills, stocks, real estate, and fixed deposits. The study concluded that investing in stocks provides attractive long-term returns. Investment in real estate allows an organization to benefit from tax advantages and gain cash flow because the monthly income generated by rental properties can offset investors' expenses and return money to the organization.

Cheng and Hollie (2020) investigated how industry participation affected the fit of the disaggregated future cash flow prediction model developed by Cheng and Hollie. One year from now, cash flows may be better predicted with the use of a disaggregated cash flow model, according to the study's empirical evidence. Sales, COGS, and operational cash flows have a stronger track record of longevity than interest and tax payments, which are considered non-core components of cash flows, according to the research. Core and non-core cash flow components appear to have varying degrees of persistence, according

to the results. While core cash flows may seem like a better predictor of sample cash flows a year from now than non-core cash flows, the research does not back that claim up. Also, it seems that being a part of a certain industry has a major impact on how well Cheng and Hollie's disaggregated cash flow prediction model fits the data. Therefore, it is vital to be a member of the industry in order to forecast how well the Cheng and Hollie model fits various sectors.

Most Swedes' commercial banks have diversified their investments to encompass insurance, real estate, government securities, and buying shares, according to a report by Asuma (2022) that evaluated investment in non-core businesses among Swedes' commercial banks. The study's conclusion is that investment diversification has helped commercial banks weather the market's ups and downs and improve their bottom lines. Although the magnitude of the effect was not specified, a study conducted in Nigeria by Karagu and Bichanga (2014) found that non-core investment significantly affects Sacco's financial performance.

In order to comprehend the redistribution of profits, Menon et al. (2021) concentrated on studying the effect of bancassurance on the efficiency and profitability of fourteen Indian banks from 2011 to 2021. According to the results, private banks are bringing in more money from sources other than their primary business than their public sector counterparts. Also, as the results show, the contribution to the bancassurance industry has a positive impact on both performance and profitability. Banks with a stronger affiliation in bancassurance tend to be more profitable overall, since the results show a stronger positive link between bancassurance and ROA than between ROE and capital adequacy.

Bailey-Tapper (2022) demonstrated the empirical relationships among non-interest income, financial performance, and the macroeconomy by employing an SUR model with panel data from Jamaica spanning from March 2012 to September 2022. The research also investigated the elements that establish non-interest income, as these sources are becoming increasingly important to financial institutions. The study indicated that commercial banks' non-interest revenue grew as a result of relative gains in bank efficiency, consumer loans, the investment ratio, and the development of automated teller machines (ATMs), among other microeconomic factors. Loan quality declined as a result. Correlations between core deposits as a proportion of total deposits and the loan-to-assets ratio and the non-interest income ratio are negative. The increasing profitability is accompanied by a rise in riskiness, since both the ROA and its variability expand in response to increases in non-interest revenue. Accordingly, it is imperative that risk indicators be closely monitored in tandem with ongoing growth in non-interest revenue generating. Results for the industry also reveal that changes in interest and currency rates, two macroeconomic variables, lead to higher non-interest revenue.

Adebisi (2021) reviewed the financial results of several Nigerian banks before and after the Treasury Single Account (TSA) was put into place to determine the effect of the institutional environment. The selection of these five banks was based on how the Nigerian banking industry is now standing. Using secondary data generated from their six-year financials (2012) and 2017 (representing 'Pre and Post TSA'), the selected banks' performance indices for deposit growth, asset quality (loan advances), and profitability were computed. Regardless of the impact of TSA, the selected banks' performance indicators remained unchanged. This study concludes that the selected Nigerian banks'

performance indicators are positively affected by intuitional settings, which is not surprising given that operators are increasingly branching out into core banking businesses to increase capital and decrease risk. Based on the findings, it is recommended that institutions take stronger measures to prevent workers from engaging in banking activities outside of their core competencies.

Using a longitudinal examination of publicly listed US enterprises over a ten-year period, Smith et al. (2022) investigated non-core investment and company performance: evidence from US firms. Firms that invested in things other than their core competencies fared worse financially than those that did, according to the study. This is because non-core investments were positively correlated with business performance. The significance of using resources strategically to improve overall business performance was emphasized in the conclusion.

Using regression analysis, Dewi and Chen (2019) examined a subset of Chinese listed businesses to draw conclusions on the relationship between non-core investments and organizational financial success. The results showed that diversification had positive and negative impacts on financial performance, depending on the business. The link between non-core investment and financial success was also varied. The research found that market circumstances and firm-specific variables determine the effect of non-core investment on financial success.

Research by Gupta et al. (2022) titled "Non-Core Investments and Financial Performance: Insights from Emerging Markets" investigated how non-core investments affected financial performance in developing economies. This study found, via a combination of qualitative case studies and financial data from developing market companies, that

variables including regulatory regimes and market volatility play a role in the complex link between non-core investments and financial success. To optimize business value in developing markets, it is crucial to carefully analyze risks and ensure strategy alignment while managing non-core assets.

2.3.4 Regulatory Framework and Financial Performance

In a study conducted by Smith (2022) titled “Regulatory Framework and Financial Performance: A Cross-Industry Analysis,” the researchers examined the impact of regulatory environments on financial performance across various industries. Employing a comparative analysis methodology, they investigated sectors such as banking, healthcare, and energy. The study found that industries operating in highly regulated environments tended to exhibit lower financial performance metrics such as return on assets and profitability ratios compared to those in less regulated sectors. This suggests that stringent regulatory frameworks can impose additional compliance costs and operational constraints, thereby affecting overall financial performance negatively. The conclusion emphasized the need for policymakers and industry stakeholders to balance regulatory oversight with incentives for innovation and efficiency to promote sustainable economic growth across different sectors.

In another investigation by Isnain et al. (2023) titled “Regulatory Changes and Firm Financial Performance: Evidence from the Telecommunications Industry,” the researchers focused specifically on the telecommunications sector to analyze the impact of regulatory changes on firm performance. Utilizing event study methodology, they examined the financial performance of telecommunications companies in response to regulatory reforms such as deregulation or liberalization. The findings revealed mixed effects, with

some firms experiencing improved financial performance following regulatory changes while others faced challenges due to increased competition or regulatory uncertainty. The study concluded that the financial impact of regulatory changes on firms in the telecommunications industry depends on factors such as market structure, technological innovation, and regulatory implementation.

Financial performance and regulatory compliance costs: insights from the banking sector was the subject of research by Garcia and Martinez (2022) who set out to determine the nature of this link. Through a quantitative analysis of financial data and regulatory compliance expenses, the researchers found that banks facing higher regulatory compliance costs tended to exhibit lower profitability and return on equity. This suggests that regulatory burdens can impose significant financial strains on banks, limiting their ability to generate returns for shareholders. The conclusion underscored the importance of regulatory efficiency and cost-effective compliance strategies to mitigate adverse effects on financial performance while maintaining stability and consumer protection in the banking sector.

Patel and Gupta (2021) found that stringent regulatory requirements often result in lower financial performance metrics such as profit margins and return on investment. These requirements, including lengthy approval processes, contribute to increased costs and delayed revenue generation for pharmaceutical companies. However, reforms aimed at streamlining approval processes and reducing compliance burdens could potentially enhance financial performance and stimulate innovation within the industry.

Similarly, Fardnia et al. (2021) investigated the impact of regulatory compliance on financial performance in the airline industry. Their event study analysis revealed that

airlines facing increased regulatory requirements, such as safety standards and emission regulations, experienced higher operating costs and reduced profitability. Nevertheless, firms that implemented proactive compliance measures and invested in fuel-efficient technologies demonstrated better financial resilience. Balancing regulatory compliance with operational efficiency and sustainability initiatives is crucial for airlines to maintain financial performance amidst regulatory pressures.

In the oil and gas industry, Zhou (2022) conducted a comparative analysis of financial performance across companies operating in different regulatory environments. They found that firms operating in regions with stringent environmental regulations and political instability experienced greater volatility in financial performance due to compliance costs and geopolitical risks. Conversely, companies operating in more stable regulatory environments demonstrated more consistent financial performance. Regulatory predictability and effective risk management are essential for oil and gas companies to maintain financial stability and investor confidence amid regulatory uncertainty.

Chen and Wong (2020) examined the regulatory challenges faced by the food and beverage industry and their impact on financial performance. Their survey-based analysis revealed that companies facing complex and evolving regulatory requirements incurred higher compliance costs, negatively impacting profitability and margins. However, firms that implemented technology-driven solutions and supply chain optimization strategies were able to mitigate compliance-related expenses and improve financial performance. Proactive compliance management and investment in innovation are essential for food and beverage companies to navigate regulatory challenges and maintain financial competitiveness.

Wang and Liu (2021) explored the relationship between regulatory oversight and financial performance in the healthcare sector. Their panel data analysis revealed that healthcare organizations subject to rigorous regulatory oversight experienced increased administrative burdens and compliance costs, leading to reduced profitability and operational efficiency. Nevertheless, firms that implemented quality improvement initiatives and patient-centered care models demonstrated improved financial performance outcomes. Regulatory reforms aimed at promoting value-based care and reducing administrative complexity are crucial for healthcare organizations to enhance financial performance while delivering high-quality services.

In a study titled “Environmental Regulation and Firm Financial Performance: A Longitudinal Analysis” conducted by Park et al. (2020) the study explored the impact of environmental regulations on firm financial performance across multiple industries. Using longitudinal data analysis, they examined the financial performance of firm’s subject to environmental regulations over time. The findings indicated that firms proactively addressing environmental compliance tended to achieve better financial performance compared to those facing penalties or remediation costs due to non-compliance. The study concluded that environmental regulations can drive innovation, cost savings, and market competitiveness, ultimately contributing to improved financial performance for firms across various industries.

2.4 Summary of Research Gaps

Research on the impact of liquidity management on financial performance spans various geographical regions and sectors, indicating its significance across different contexts. However, despite the growing body of literature, there are still notable research gaps that

merit attention. While there is ample research on liquidity management and financial performance in banking institutions globally, there appears to be a dearth of studies focusing specifically on Tier One DT SACCOs in Kenya. This creates a gap in understanding how liquidity management strategies employed by SACCOs in Kenya, particularly those categorized as Tier One, influence their financial performance.

Existing studies cover a diverse range of geographical regions and sectors, such as Islamic banks in Egypt (Mobarak, 2020) property and real estate companies in Indonesia (Dwiantari & Artini, 2021). Listed deposit money banks in Nigeria Kafidipe et al. (2021) and banks operating in Palestine (Zidan, 2020). However, there is a gap in research that directly compares or contrasts the impact of liquidity management on financial performance across different sectors or geographical regions, particularly within the SACCO sector in Kenya.

While some studies touch upon liquidity risk management or liquidity optimization, such as in the case of Islamic commercial banks in Indonesia. (Kaharuddin & Yusuf, 2022). There seems to be a need for a more comprehensive analysis of various liquidity management practices employed by SACCOs in Kenya. This could include examining the effectiveness of liquidity ratios, cash flow management strategies, and the utilization of liquidity reserves, among other factors, in influencing financial performance.

Few studies have investigated the relationship between corporate governance, risk management, liquidity management practices, and financial performance in Tier One DT SACCOs in Kenya. While these topics have been discussed in other studies, such as that on listed deposit money banks in Nigeria Kafidipe et al. (2021), no such studies have addressed the specifics of how these factors interact with one another. Gaining a better

grasp of how liquidity management, corporate governance, and risk management interact with one another might offer useful information for improving financial stability and performance.

A number of scholars have studied the financial performance of SACCOs in Kenya, including Kimutai (2022), Mwangudza et al. (2020), Sitienei and Thuita (2021), Ongeru et al. (2021), Asuma (2022), Njeru and Tirimba (2022), and Koech and Kagiri (2021). These studies have used a variety of variables, and they have found that the factors that contribute to the success or failure of co-ops are complex and contextual. A statistically significant and negative relationship between financial hardship and board composition, board education, and board tenure was shown by Munene et al. (2020).

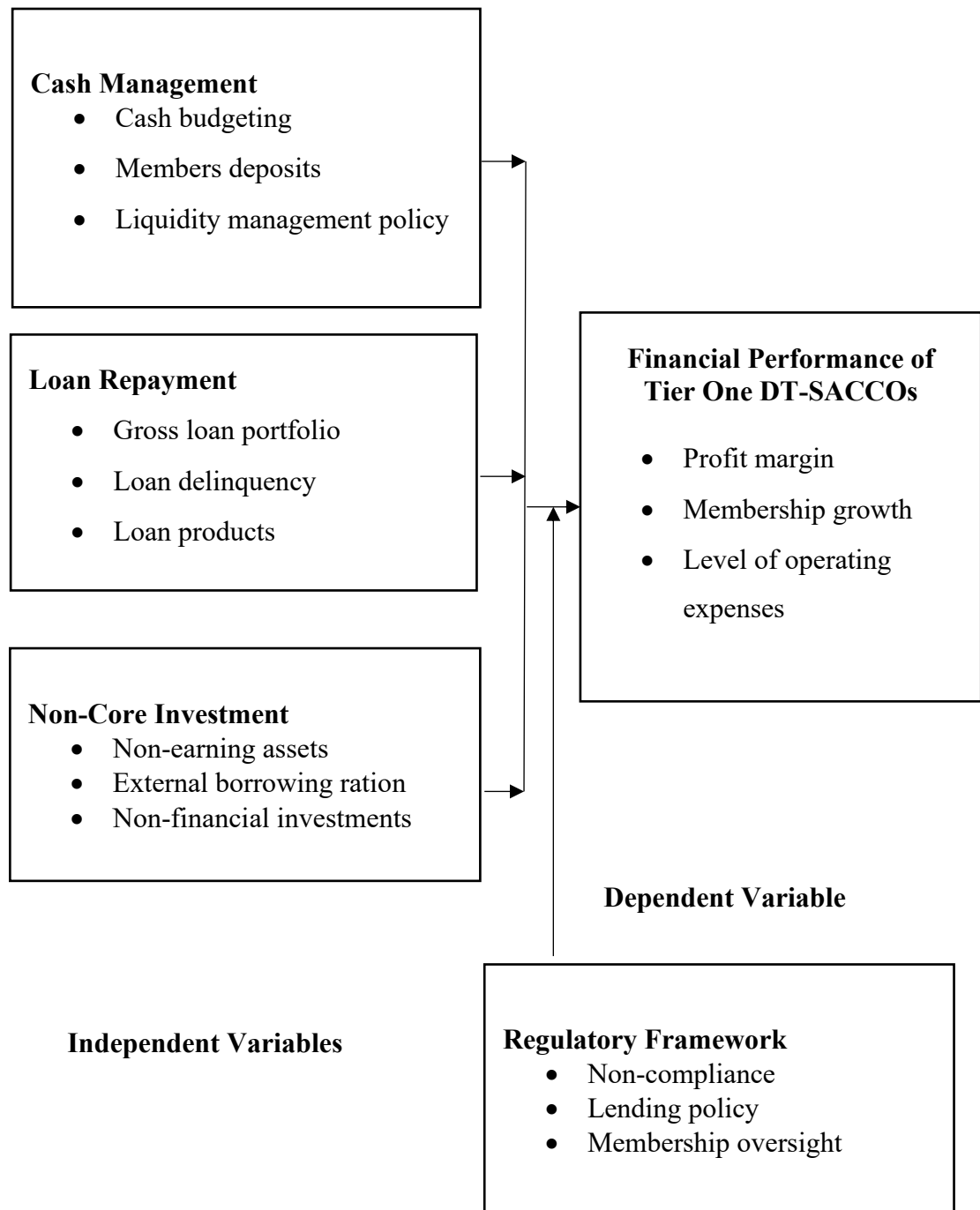
Most of the previous research examined above were missing data when it came to both context and methodology, as is seen above. Prior to this study, no one has taken a more holistic view of the setting or research methodology to determine the impact of four factors on the financial performance of Kenyan tier one DT SACCOs: cash management, loan repayment, non-core investment, and regulatory framework. In addition, no research has looked at how the regulatory environment in Kenya might mitigate the impact of liquidity management on the financial performance of deposit-taking SACCOs.

2.5 Conceptual Framework

A conceptual framework is a set of related ideas that, according to Halperin and Heath (2020), should serve as a guide for making sense of and drawing conclusions from available data. Conceptual framework is typically presented visually.

Figure 2.2

Conceptual Framework



Moderating Variable

2.6 Explanation of Variables

The framework explains the relationship that is there between the dependent and independent variables.

2.6.1 Cash Management

Cash management is a critical aspect of financial management for DT-SACCOs and plays a significant role in influencing their financial performance. Essentially, cash management refers to the strategic planning, control and utilization of cash resources within an organization to ensure liquidity, optimize returns, and mitigate risks (Kimutai, 2022). Effective cash management is essential for maintaining operational continuity, meeting member demands, and achieving sustainable growth (Wuave et al., 2020).

The financial performance of DT-SACCOs is intricately linked to their ability to manage cash effectively. Efficient cash management involves various processes, including cash flow forecasting, liquidity management and investment decision-making (Markonah et al., 2020). Cash flow forecasting entails predicting future cash inflows and outflows based on historical data, market trends, and member behavior. Accurate forecasting allows DT-SACCOs to anticipate liquidity needs, plan investments, and allocate resources efficiently, thereby enhancing their ability to meet financial obligations and optimize returns (Nurwulandari, 2021).

According to Dwiantari and Artini (2021), liquidity management is another crucial aspect of cash management for DT-SACCOs. It involves maintaining a balance between cash inflows and outflows to ensure that the organization has adequate funds to meet short-term obligations (Dzapasi, 2020). Effective liquidity management allows DT-SACCOs to honor member withdrawals, cover operating expenses, and seize investment opportunities without resorting to costly borrowing or facing liquidity shortages. By optimizing liquidity, DT-SACCOs can enhance financial stability, minimize risks, and support sustainable growth (Sitienei & Thuita, 2021).

Cash management directly impacts the profitability of DT-SACCOs. By efficiently managing cash flows and investments, DT-SACCOs can maximize returns while minimizing costs and risks (Dahiyat et al., 2021). For instance, investing excess cash in income-generating assets such as loans or securities can generate additional revenue streams for DT-SACCOs, thereby boosting profitability (Pattiruhu & Paais, 2020). Conversely, poor cash management practices, such as excessive cash holdings or inefficient use of funds, can lead to missed opportunities and decreased profitability (Feng et al., 2020). In addition to profitability, effective cash management also influences other key performance indicators of DT-SACCOs, such as asset quality, capital adequacy, and operational efficiency. For example, by maintaining optimal levels of liquidity and managing risks prudently, DT-SACCOs can enhance asset quality and reduce the likelihood of loan defaults or liquidity crises (Mobarak, 2020). Moreover, efficient cash management enables DT-SACCOs to operate more smoothly, streamline processes, and allocate resources more effectively, thereby improving operational efficiency and reducing costs (Doan & Bui, 2021).

According to Sonia and Khafid (2020), cash management is crucial for DT-SACCOs to maintain regulatory compliance and meet the expectations of stakeholders. Regulatory authorities typically require DT-SACCOs to maintain certain levels of liquidity and capital adequacy to ensure financial stability and protect member interests. Effective cash management practices help DT-SACCOs fulfil these regulatory requirements while also instilling confidence among members, investors, and other stakeholders. By demonstrating sound cash management practices, DT-SACCOs can enhance trust, reputation, and long-term sustainability (Effiong & Ejabu, 2020).

The adoption of technology-enabled cash management solutions can significantly enhance the efficiency and effectiveness of cash management for DT-SACCOs (Kaharuddin & Yusuf, 2022). By leveraging digital banking platforms, mobile payment systems, and automated treasury management tools, DT-SACCOs can streamline processes, reduce manual errors, and improve decision-making. Technology solutions also provide real-time visibility into cash flows, enabling DT-SACCOs to monitor performance, identify trends, and respond promptly to changing market conditions (Zidan, 2020).

Effective cash management is essential for the financial performance and sustainability of DT-SACCOs (Doan & Bui, 2021). By implementing robust cash management practices, including cash flow forecasting, liquidity management, investment decision-making and leveraging technology solutions, DT-SACCOs can enhance profitability, mitigate risks, and support long-term growth. Moreover, sound cash management practices enable DT-SACCOs to maintain regulatory compliance, build trust with stakeholders, and fulfil their mission of providing accessible financial services to underserved communities (Pattiruhu & Paais, 2020).

2.6.2 Loan Repayment

As a key provider of financial services, DT-SACCOs are essential in many economies, especially for people and small companies. Loan repayment and financial performance are important measures of the stability and efficacy of these SACCOs in accomplishing their purpose (Sonia & Khafid, 2020). In loan repayment, the borrower pays back the loan principle plus interest that has accrued within the agreed upon timeline. It is essential to SACCO operations because it guarantees the longevity of their lending activities and general financial well-being (Oudat & Ali, 2021).

Abdulnafea et al. (2022) states that DT-SACCOs' financial performance is measured by a variety of indicators, including liquidity, profitability, capital sufficiency, asset quality, and asset quality. The capacity of SACCOs to make a profit is a measure of their efficiency in running their business, which mostly results in interest revenue from investments and loans. The capacity to pay for immediate needs, such as operating expenditures and member withdrawals, is a measure of liquidity (Nugraha et al., 2023). The asset quality of a SACCO is a measure of how well it manages risk and how reliable its loan portfolio is. A company's capacity to weather financial storms and keep the lights on is determined by its capital adequacy (Reschiwati et al., 2020).

Effective loan repayment practices are essential for the financial performance of DT-SACCOs. Timely and consistent repayments enhance cash flows, reduce credit risk, and support sustainable lending operations (Ongeri et al., 2021). SACCOs employ various strategies to promote loan repayment, including rigorous credit assessments, collateral requirements, and borrower education programs. Additionally, SACCOs may offer

flexible repayment terms, grace periods, and refinancing options to support borrowers facing financial difficulties and ensure higher repayment rates (Asuma, 2022).

Katula and Kiriinya (2022) posit that the financial performance of DT-SACCOs is closely intertwined with their loan portfolio quality. Non-performing loans (NPLs) pose significant challenges to SACCOs' profitability and financial stability by reducing interest income, increasing provisioning expenses, and eroding capital reserves. Therefore, SACCOs implement robust credit risk management frameworks to identify, monitor, and mitigate potential loan delinquencies (Baidoo et al., 2020). These frameworks encompass credit underwriting standards, collateral valuation, loan monitoring systems, and collection strategies tailored to the needs of their member base (Njeru & Tirimba, 2022).

The loan repayment and financial performance of DT-SACCOs are interconnected aspects that reflect their operational efficiency, risk management practices, and regulatory compliance (Nworie et al., 2023). By fostering a culture of responsible borrowing and lending, implementing robust credit risk management frameworks, and adhering to regulatory requirements, SACCOs can enhance their financial performance, sustainably serve their member base, and contribute to economic development and financial inclusion (Ryviana & Krisnawati, 2023).

2.6.3 Non-Core Investment

Non-core investment refers to the allocation of funds by DT SACCOs into assets and ventures beyond their primary operations of mobilizing savings and providing credit to members. This practice encompasses a range of activities such as equity investments, real estate ventures, and other financial instruments not directly related to the core functions of the SACCO (Ryviana & Krisnawati, 2023). The decision to engage in non-core

investments often arises from the need to diversify revenue streams, enhance returns on idle funds, or mitigate risks associated with the core business activities. However, the pursuit of non-core investments also introduces additional complexities and risks to the SACCO's financial performance, necessitating careful evaluation and management strategies (Njeru & Tirimba, 2022).

One key aspect to consider when discussing non-core investments in SACCOs is the potential impact on financial performance. While these investments offer opportunities for higher returns compared to traditional savings and credit activities, they also expose the SACCO to greater market risks and uncertainties (Abuga et al., 2023). The performance of non-core investments is influenced by various factors such as market conditions, regulatory environment, and management expertise. Therefore, SACCOs must conduct thorough risk assessments and adopt prudent investment strategies to safeguard their financial stability and protect the interests of members (Quansah & Opoku, 2023).

The success of non-core investments in SACCOs depends significantly on effective portfolio management practices. SACCOs must allocate resources strategically across different asset classes to optimize returns while balancing risk exposure (Nworie et al., 2023). Diversification plays a crucial role in spreading risk and minimizing the impact of adverse market movements on investment portfolios. Additionally, SACCOs need to actively monitor and evaluate the performance of their non-core investments, adjusting their strategies as needed to capitalize on emerging opportunities or mitigate potential losses (Airout et al., 2023).

According to Sidhu et al. (2023), another consideration in evaluating the financial performance of SACCOs' non-core investments is their alignment with the organization's

overall objectives and risk appetite. SACCOs should establish clear investment policies and guidelines that align with their mission, vision, and long-term goals. This ensures that non-core investments complement the SACCO's core activities and contribute positively to its overall financial health (Hidayat & Dewi, 2023). Moreover, SACCOs must assess the risk-return profile of each investment opportunity and ensure that it aligns with the organization's tolerance for risk (Yakura et al., 2023).

According to Sitienei and Thuita (2021), SACCOs must also evaluate the social and ethical implications of their non-core investments. As member-owned financial cooperatives, SACCOs have a responsibility to operate in a manner that promotes the well-being of their members and communities. Therefore, SACCOs should prioritize investments that generate positive social impact and adhere to ethical standards and principles. This not only enhances the SACCO's reputation and credibility but also fosters trust and loyalty among members and stakeholders (Kimutai, 2022).

SACCOs need to maintain transparency and accountability in their non-core investment activities to build trust and confidence among members. This includes providing regular updates and reports on investment performance, risk exposure, and decision-making processes (Mwangudza et al., 2020). Open communication fosters greater member engagement and ensures that members are well-informed about the SACCO's investment activities and their implications. Additionally, SACCOs should seek feedback from members and incorporate their perspectives into investment decision-making processes, reflecting the principles of democratic member control and participation (Nurwulandari, 2021).

The management of non-core investments presents both opportunities and challenges for deposit-taking SACCOs. While these investments offer the potential for higher returns and diversification of revenue streams, they also entail greater risks and complexities that require careful management and oversight (Mwangudza et al., 2020). By adopting sound investment strategies, aligning investments with organizational objectives, and prioritizing social responsibility and transparency, SACCOs can optimize the financial performance of their non-core investments while fulfilling their mission of serving members and communities (Sitienei & Thuita, 2021).

2.6.4 Regulatory Framework

The regulatory framework governing these institutions is fundamental in ensuring their stability, sustainability, and accountability. In many jurisdictions, SACCOs are subject to specific regulations and oversight to safeguard the interests of depositors, promote financial inclusion, and maintain the overall stability of the financial system (Dzapasi, 2020). One key aspect of the regulatory framework for deposit-taking SACCOs is prudential regulation. Prudential regulations set standards for capital adequacy, liquidity management, and risk management practices (Feng et al., 2020). These rules are put in place to make sure that SACCOs have enough money to weather losses, that they manage their cash flow well to cover withdrawal requests, and that they use good risk management techniques to prevent credit and operational risks. By adhering to prudential regulations, SACCOs can enhance their financial resilience and reduce the likelihood of financial distress (Pattiruhu & Paais, 2020).

In Kenya, SACCOs must follow the rules laid down by the SASRA. The SACCO's management is obligated to provide a return on investments report, which contrasts the

financial assets, land, and buildings with the total assets and core capital, as well as reports on liquidity, capital adequacy, statements of financial position, and statements of deposit (Sitienei & Thuita, 2021). No research has concentrated on determining the effect of SASRA on SACCOs' financial performance, despite SASRA's crucial role in enhancing SACCO management. According to Clement (2022), the SACCO Societies Act of 2008 was passed to establish a regulatory authority for savings and credit co-ops and to license, oversee, and promote them. So, this law sets up the SASRA, whose job it is to regulate and oversee SACCOs and provide licenses to those that want to take deposits (Lomuria et al., 2020).

In order to keep their finances in order, DTS must adhere strictly to the prudential standards and criteria laid up by the Sacco Societies Act (Cap 490B) and the Regulations enacted thereunder. Asset quality, liquidity needs, constraints on external borrowing and equity investments, quality of core capital and capital adequacy ratios, and profits generation are the important criteria. On top of that, there are financial best practices and periodic regulatory recommendations released by the Authority (SASRA, 2020). Minimum core capital for DTSs is Kshs 10 million, and they must adhere to the following capital adequacy ratios: core capital to total assets, core capital to deposit liabilities, and institutional capital to total assets, with respective minimums of 10%, 8%, and 8% (SASRA, 2022).

Regulatory authorities often impose reporting and disclosure requirements on deposit-taking SACCOs. These requirements compel SACCOs to provide transparent and timely financial information to regulators, members, and other stakeholders (Mobarak, 2020). Through regular financial reporting and disclosure, SACCOs can enhance accountability,

facilitate market discipline, and promote trust among depositors and investors. Moreover, transparent financial reporting enables regulators to assess the financial health and performance of SACCOs, identify emerging risks, and take appropriate supervisory actions to mitigate potential threats to financial stability (Sonia & Khafid, 2020).

In addition to prudential regulations and reporting requirements, regulatory frameworks for deposit-taking SACCOs may also include governance standards and consumer protection measures (Effiong & Ejabu, 2020). Governance standards prescribe the composition and responsibilities of SACCO boards and management, as well as internal controls and audit requirements (Mwangudza et al., 2020). By adhering to robust governance standards, SACCOs can enhance decision-making processes, minimize conflicts of interest, and promote ethical conduct. Consumer protection measures, on the other hand, aim to safeguard the interests of SACCO members and ensure fair treatment in the provision of financial services (Kimutai, 2022).

The effectiveness of the regulatory framework significantly influences the financial performance of DT-SACCOs. A well-designed and implemented regulatory framework can foster confidence among depositors and investors, attract capital inflows, and promote sustainable growth (Sitienei & Thuita, 2021). By contrast, weak or inadequate regulation may undermine investor confidence, expose SACCOs to excessive risks, and ultimately lead to financial instability. Therefore, policymakers and regulators play a critical role in designing and enforcing regulatory frameworks that strike a balance between promoting financial inclusion and stability (Osako, 2020).

According to Mwangudza et al. (2020), the regulatory framework governing deposit-taking SACCOs plays a pivotal role in shaping their financial performance and overall

stability. Prudential regulations, reporting requirements, governance standards, and consumer protection measures are essential components of this framework, aiming to ensure sound risk management, transparency, accountability, and consumer confidence. By fostering an enabling regulatory environment, policymakers and regulators can support the sustainable growth and resilience of deposit-taking SACCOs, thereby contributing to broader financial inclusion and stability objectives (Osako, 2020).

2.6.5 Financial Performance

In order to keep their finances in order, DTS must adhere strictly to the prudential standards and criteria laid up by the Sacco Societies Act (Cap 490B) and the Regulations enacted thereunder. Asset quality, liquidity needs, constraints on external borrowing and equity investments, quality of core capital and capital adequacy ratios, and profits generation are the important criteria. On top of that, there are financial best practices and periodic regulatory recommendations released by the Authority (SACCO Societies Regulatory Authority [SASRA], 2020). Core capital to total assets, institutional capital to total assets, and core capital to deposit liabilities must all be maintained at minimums of 10%, 8%, and 8%, respectively, and DTSs are required to conform to these capital adequacy ratios, which start at Kshs 10 million (SASRA, 2022).

Analyzing their financial performance of DT SACCOs is crucial for assessing their effectiveness in fulfilling their dual role of serving members' financial needs and ensuring sustainable growth. Key metrics used to evaluate SACCOs' financial performance include profitability, asset quality, liquidity, and capital adequacy (Koech & Kagiri, 2021). According to Munsanje (2021), profitability is a fundamental measure of SACCOs' financial health and sustainability. It indicates the ability of SACCOs to generate earnings

from their core operations, such as interest income from loans and investment returns. Profitability ratios, such as ROA and ROE, provide insights into SACCOs' efficiency in utilizing their resources to generate profits. High profitability reflects effective loan portfolio management, prudent investment strategies, and efficient cost control, contributing to SACCOs' long-term viability (Cheng & Hollie, 2020).

Asset quality is another critical aspect of SACCOs' financial performance. It assesses the risk of loan defaults and the overall health of SACCOs' loan portfolios. Metrics like the loan portfolio quality ratio and the non-performing loans (NPL) ratio measure the proportion of loans at risk of default or already in default (Njeru & Tirimba, 2022). SACCOs with a high-quality loan portfolio demonstrate effective credit risk management practices, stringent underwriting standards, and proactive measures to address delinquent loans, enhancing financial stability and member confidence (Koech & Kagiri, 2021).

Liquidity management is essential for SACCOs to meet member withdrawals and other financial obligations promptly. Liquidity ratios, such as the liquidity coverage ratio and the loan-to-deposit ratio, evaluate SACCOs' ability to maintain sufficient liquid assets to cover short-term liabilities (Baidoo et al., 2020). Effective liquidity management involves balancing the need to maintain adequate liquidity buffers with the desire to maximize returns on assets, ensuring SACCOs can withstand liquidity shocks and support member needs without compromising long-term financial sustainability (Koech & Kagiri, 2021).

Capital adequacy is a key determinant of SACCOs' resilience to financial shocks and regulatory compliance. Capital adequacy ratios, such as the capital adequacy ratio (CAR) and the leverage ratio, assess the proportion of SACCOs' capital relative to their risk-weighted assets and total assets (Essien & Umo, 2023). Adequate capitalization provides

SACCOs with a buffer to absorb losses, supports expansion and growth initiatives, and enhances depositor confidence (Njeru & Tirimba, 2022). SACCOs that maintain robust capital adequacy ratios demonstrate a commitment to financial stability and regulatory compliance, positioning them for sustainable growth and development (Baidoo et al., 2020).

SACCOs' financial performance is influenced by various external factors, including macroeconomic conditions, regulatory environment, market competition, and technological advancements. Economic fluctuations, interest rate movements, and inflation rates impact SACCOs' profitability, asset quality, and liquidity position (Osako, 2020). Regulatory changes, such as updates to prudential regulations and reporting requirements, can affect compliance costs and operational efficiency. Market competition and technological innovations drive changes in member preferences, product demand, and service delivery channels, necessitating SACCOs to adapt and innovate to remain competitive and relevant (Ongeri et al., 2021).

Evaluating the financial performance of DT-SACCOs requires a comprehensive analysis of profitability, asset quality, liquidity, and capital adequacy (Essien & Umo, 2023). SACCOs that demonstrate strong financial performance exhibit prudent risk management practices, efficient resource allocation, and responsiveness to market dynamics (Koech & Kagiri, 2021). By maintaining a focus on financial sustainability, regulatory compliance, and member-centricity, SACCOs can enhance their resilience, fulfil their mission of serving members' financial needs, and contribute to broader financial inclusion and stability objectives (Ongeri et al., 2021).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research approach explained the research design, target population, research instruments, data analysis and the empirical model.

3.2 Research Design

An approach based on descriptive research was utilized in this examination. The phrase "descriptive design" was used by Clark et al. (2021) to describe a method of variable research that involves gathering quantitative data from several variables by observation alone, without harming the subjects. Thanks to our method, we can test out various values for a single variable and observe their effects on another without modifying the original variable, making it perfect for our study. In particular, it is well-suited for passively examining the effects of four variables: cash management, loan repayment, non-core investment, and the moderating influence of regulatory framework.

This means the study can look for correlations related to how the relevant variables are currently doing. Based on his recommendations, King (2022) argues that descriptive survey research is the best way to test hypotheses about the study's respondents' present state, which is why this design was chosen. The quantitative nature of the present investigation also makes it an excellent candidate for a descriptive research strategy. This

study used a descriptive research design to examine the impact of liquidity management on the financial performance of top-tier DT-SACCOs in Kenya.

3.3 Target Population

The term "target population" is used by Hennink et al. (2020) to describe the sum of all things, people, or entities that meet certain criteria. It can be any group of individuals or occurrences chosen for the purpose of drawing conclusions about a larger population. Accountants, credit managers, risk managers, internal auditors, and compliance officials will make up the target demographic. This is due to the fact that their expertise of the DTS operations is both varied and specialized, making them ideal for this research.

The choice of Tier one DT SACCOs in Kenya as the target population, was because like their counterparts in the banking sector, they hold a prominent position within the financial services industry. Their designation as “tier one” signifies their significance in terms of size, market presence, and regulatory scrutiny. Here's why focusing on tier one deposit-taking SACCOs specifically in Kenya is important when examining the effect of liquidity management on financial performance (Asuma, 2022).

In terms of size and market presence, Tier one DT SACCOs in Kenya are among the largest and most influential SACCOs in the country. They have extensive membership bases, significant asset portfolios, and widespread market reach. As such, their liquidity management practices can have a substantial impact on the overall stability and efficiency of the SACCO sector in Kenya (Mwangudza et al., 2020).

According to SASRA (2020), Tier one DTSs are subject to heightened regulatory oversight from bodies such as the SASRA in Kenya. These regulatory authorities impose

stringent liquidity requirements and risk management standards to ensure the safety and soundness of DTS. Therefore, understanding the relationship between liquidity management and financial performance in tier one SACCOs is crucial for regulatory compliance and ensuring the stability of the SACCO sector as a whole.

Tier one DTS often set industry standards and influence market trends within the SACCO sector in Kenya. Their liquidity management practices can serve as benchmarks for other SACCOs in terms of efficiency, effectiveness, and responsiveness to market conditions (Asuma, 2022). Analyzing the impact of liquidity management on the financial performance of tier one SACCOs provides valuable insights for smaller SACCOs looking to optimize their own liquidity management strategies and enhance their competitiveness in the market (Katula & Kiriinya, 2022).

According to SASRA (2022), tier one DTS typically serve a large and diverse membership base, including individuals, small businesses, and organizations across various sectors of the economy. Effective liquidity management directly affects the ability of these SACCOs to meet the financial needs and expectations of their members. Therefore, understanding how liquidity management practices influence the financial performance of tier one SACCOs is essential for assessing their ability to provide reliable and responsive financial services to their members (Kimutai, 2022).

Table 3.1

Target Population

Category	Frequency
Compliance officers	63
Internal auditors	22
Risk management team	28

Credit Managers	20
Accountants	33
Total	166

3.4 Sampling Frame

According to Ishak and Bakar (2017), a sampling frame is a collection of items from which a sample is to be drawn. Twenty of Kenya's most prominent DT SACCOs, listed by asset base as of the fiscal year 2023, served as the study's sampling frame (Appendix VI).

3.5 Sample Size and Sampling Technique

Sampling is a technique for picking a subset of a larger population to serve as a proxy for the whole. Researchers collect people, places, or objects to examine using a process known as sampling (Lindner et al., 2020). If something is true about a sample, it should also be true for the population as a whole. It is, nevertheless, universally acknowledged that the sampling error decreases as the sample size increases. It is possible to draw conclusions about the population's characteristics based on the features of a representative sample (Halperin & Heath, 2020). Researchers often have to settle for studying subsets of a population rather than the entire population as a whole because of practical constraints.

This study utilized stratified sampling technique. This is because, the sample categories represented different job roles within SACCOs. These job roles likely have distinct responsibilities and perspectives regarding liquidity management and financial performance. By using stratified sampling, it ensured that each stratum (job role) is represented proportionally in your sample.

For this study, Roscoe's rule of thumb was used (Sekaran, 2003) as a guide: for most studies, a sample size between 30 and 500 is suitable.

$$n = \frac{N}{1+N(e^2)}$$

Therefore, the size of the sample based on the formula is depicted in equation below;

$$n = \frac{166}{1+166(0.05^2)}$$

$$n = 117$$

Table 3.2

Sample Size

Category	Frequency
Compliance officers	44
Internal auditors	16
Risk management team	20
Credit Managers	14
Accountants	23
Total	117

3.6 Data Collection Instruments

Because of its inherent advantages, the questionnaire was the main method for collecting primary data. Due to its time and money savings, questionnaires are the method of choice for gathering data from vast and varied populations (Surucu & Maslakci, 2020). For this purpose, it was possible to get a great deal of data from all the SACCOs quickly and cheaply. Since it is a standard instrument, data obtained using the same questionnaire also has little impact on reliability and validity. The researcher employed qualified research assistants to scour for information from DT-SACCOs in Tier 1. According to Mohajan

(2020), questionnaire data was studied in a more scientific and objective manner compared to other types of research data. The strengths mentioned above are the key reasons why questionnaires are used as the main method for data gathering.

A distinct goal informed the development of each questionnaire parameter. The detected factors are used to break the questionnaire into parts. The responses recorded using a Likert scale with five points. The financial performance of SACCOs was collected over a five-year period using secondary data sheets. The researcher was able to make more informed judgments about the study variables after reviewing the data collected from these sources.

3.7 Data Collection Procedures

The term “data collection procedure” refers to the steps used to collect and measure certain variables within a predetermined framework in order to draw conclusions and answer questions. For research to remain credible, precise data collecting is required (Adams & McGuire, 2022). The researcher collected data from the chosen tier one DT-SACCOs using a drop-and-pick approach.

In order to gather data, the researcher requested for university's formal consent, which served as the cover letter. After the study was successfully submitted, the researcher received official approval from NACOSTI, which authorized data collection in the field.

Once the necessary approvals were obtained, a letter was prepared and sent to all of the tier one DT-SACCOs using the email addresses obtained from their respective corporate websites. This followed by contacting the management of DT-SACCOs by phone to advise them about the planned research and to set a date for the data collecting activity.

An already-printed questionnaire were distributed to the DT-SACCO by the researcher on the material day so that data may be collected from the management. After the participants fill out the questionnaire, the researcher personally collected them at the agreed upon intervals.

3.8 Pilot Study

Pilot testing is a common first step in research initiatives because it allows researchers to assess the trustworthiness and validity of their data collection procedures. The purpose of this was to guarantee that the research questions will be thoroughly answered. Before actual data collecting begins, this step is used to make sure that the study tools used to get the necessary information are accurate (Lo et al., 2020). The questions' clarity and ambiguity were tested in a pilot study during this research. It is possible to make adjustments to the research design and the instruments used in the study before they are even started by doing reliability tests early on. The present pilot study was inspired by the idea that pilot testing could help with a number of things, including: figuring out what resources would be required to carry out the study, finding out whether the sampling frame and technique are effective, figuring out whether the research protocol is realistic and doable, and evaluating the proposed data analysis techniques to find any problems.

The data collection tool was pilot tested before the main data collection. Based on the findings of Nind and Lewthwaite (2020) it is sufficient to have 10% of the target population for the pilot test. Straub et al. (2022) state that there is no requirement for statistically chosen respondents in a pilot test to assess the reliability and validity of the instruments. Specifically, 12 responders (10%) served as a pilot for the questionnaire.

After receiving the questionnaire, the participants were asked to complete an evaluation. The goal was to find out how they felt about the questionnaire's organization, length, and clarity. After the pilot data and suggestions to change the survey questions had been properly applied, the research was conducted.

3.8.1 Reliability

To determine if the survey tools utilized were valid, consistent, and reliable, a reliability study was conducted. Using Cronbach's reliability coefficient, we understood the reliability analysis. The study's reliability analysis was appropriate because it employed a Likert scale. Since the Likert scale made it clear what kind of response would be made, it made the analysis much easier. According to the Mugenda & Mugenda rule of thumb, Cronbach's alpha coefficient was set at 0.7.

The actual dependability of the survey was expressed as a lower bound by alpha. What constituted reliability in survey results was the extent to which individual respondent variances accounted for the observed variability. In other words, distinct perspectives among respondents, rather than ambiguity or alternative interpretations of the poll, accounted for the discrepancy in the results of a credible survey. The average item variance divided by the average inter-item covariance yielded Cronbach's alpha, which was then multiplied by the total number of survey questions for each survey. Under the premise that all items had similar variances, the average inter-item correlation was simplified from this ratio to standardized item alpha, also known as the Spearman-Brown stepped-up reliability coefficient.

3.8.2 Validity

Because social science measures are sometimes indirect, the question of study validity which centers on whether or not the research is actually measuring the target construct inevitably emerges (Abu-Bader, 2021). This study took into account three types of validity: sampling validity, content validity and construct validity.

How well data from a given instrument reflected the indicators or content of a certain idea was known as content validity (Adams & McGuire, 2022). To ensure the instrument was sufficient in terms of substance and breadth, it was evaluated by experts who checked if the questionnaire covered the right topics. The sampling validity of a measuring device determined if it adequately sampled a certain population, which was necessary for the questions, statements, or indicators to accurately reflect the characteristic being measured.

Many researchers used confirmatory factor analysis (CFA) to check if a construct was legitimate. In an effort to reduce the number of visible variables to a manageable number of latent components, researchers might have used principal component analysis (PCA), a technique similar to exploratory factor analysis (EFA), to look for patterns in the data. To determine if these measures were appropriate for this study, a CFA was run. The confirmatory factor analysis was calculated for every variable.

The validity of the discriminant could be determined by looking at the correlation value between the variables. Removing parameters with poor reliability ($R^2 < 0.5$) and low factor loading (< 0.5) was done through model trimming to rewrite the model. For convergent validity, one looked at the path model's loadings; for reliability, one looked at the R^2 value; and for discriminant validity, one looked at the correlation value between the components.

The study concluded with an evaluation of convergent validity, a measure of the degree to which one construct was related to other constructs that represented the same idea. One method that was utilized in this study to evaluate construct validity was Exploratory Factor Analysis (EFA). The study evaluated construct validity using the convergent validity criterion, which was defined as an Average Variance Extracted (AVE) value of 0.5 or above (Busetto et al., 2020).

3.9 Data Analysis and Presentation

Finding patterns and combining pertinent aspects of a research were the goals of data analysis (Clark et al., 2021). The goals and objectives of the study, as well as the measured variables, formed the basis for data analysis that led to findings about these topics. Outliers had a less impact on the overall results of the study. For this data analysis, the researcher relied on SPSS version 28, which offers descriptive and inferential statistics. This research made use of descriptive statistics, which include percentages, averages, variances, and standard deviations. Pearson correlation was used as a method for inferential statistics. All of the collected data was reviewed at the 5% level of significance.

3.9.1 Statistical Measurement Model

The hypothesis regarding the combined influence of the four independent factors on the dependent variable were tested using a multiple regression model. The following regression model is used to lead the investigation.

Regression model

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_1 X_1 M + \beta_2 X_2 M + \beta_3 X_3 M + \varepsilon$$

Y = Dependent Variable (Financial Performance of DT SACCOs)

B_0 = Constant

X_1 = Cash Management

X_2 = Loan Repayment

X_3 = Non-Core Investment

M = Regulatory Framework

X_iM = Product term/interaction term of the moderating variable with each of the study variables (X_1, X_2, X_3)

ε – error term

3.10 Diagnostic Tests

3.10.1 Multicollinearity Test

According to Clark et al. (2021), multicollinearity occurs when there is correlations between two or more independent variable. It is undesirable phenomena that occur when independent variable can be expressed as a linear function of another variable in the model. The presence of multicollinearity in a set of independent variables inflates the standard error resulting to exaggerated regression coefficients (King, 2022).

Multicollinearity is tested by examining the tolerance and variance inflation factor diagnostic factor (VIF). In this study, variance Inflation Factor (VIF) was used. According to Lindner et al. (2020), criterion, if VIF for one of the variables is around or greater than 5 there is multicollinearity associated with that variable. In this case one of these variables must be removed from the regression model.

3.10.2 Normality Test

According to Lo et al. (2020), normality test is used to determine whether a sample data is drawn from a normally distributed population, in this case consideration on the

dependent variable of this study. Statistical tests, such as the student's t-test and the one-way and two-way ANOVA require a normality test. Normality test is just the conjecture of the underlying random variable of interest distributed normally. Some of the methods used to check for normality is by carrying out a Q-Q test. According to Lindner et al. (2020), a Q-Q test is a plot of scores of a standard distribution against corresponding percentiles of the observed data.

Q-Q plot is a graphical tool to help assess if a set of data plausibly came from some theoretical distribution such as a Normal or exponential is data is normal the graph is almost linear. If there is statistical evidence from the test that the data deviates significantly from normal, appropriate data transforms as suggested by Mohajan (2020) was conducted on the data prior to carrying out the multiple linear regression analysis.

3.10.3 Heteroscedacity Test

According to Surucu and Maslakci (2020), Heteroscedacity is a statistical test used in statistics, especially in the context of linear regression, to describe the case where the variance of errors are not the same for all observations, while often one of the basic assumption in modelling is that the variances are homogeneous and that the errors of the model are identically distributed.

Heteroscedasticity means a situation in which the variance of the dependent variable varies across the data, as opposed to a situation where Ordinary Least Squares, (OLS) makes the assumption that the variance of the error term is constant. Heteroscedasticity complicates analysis because many methods in regression analysis are based on an assumption of equal variance. Heteroscedasticity is tested using Levines homogeneity of variables (Levine, 2016). Equality of variance is tested graphically, by observing that the

plots do not fan out, suggests that the variance is constant and therefore the assumption is met.

3.10.4 Autocorrelation Test

Unless there is a compelling reason to believe otherwise, it is often believed that the error terms are independent. When there is a known time component for the drawing of observations, this assumption is typically violated. Making a scatter plot of the residuals against the time measurement for that observation is the simplest approach to determine if there is dependency (if the data is organized according to a time sequence order). The residuals should appear to be randomly distributed about zero if the data are considered independent. There may be a problem with dependence, though, if a pattern becomes apparent, especially if it is cyclical (Mehmetoglu & Jakobsen, 2022). To check for autocorrelation, the present investigation employed Durbin Watson.

3.10.5 Linearity Test

To ensure that the data are linear, the research used the analysis of variance (ANOVA) test before moving on to regression analysis. When two continuous variables are compared using the ANOVA test, the results will show visually whether the relationship is linear or non-linear. For regression models to accurately estimate the relationship between the two sets of data, the link between the dependent and independent variables must be linear (Ghauri & Gronhaug, 2020).

3.11 Hypothesis Testing

Table 3.3

Hypothesis Testing

Hypothesis Statement	Hypothesis Test	Decision Rule
H₀₁: Cash management has no significant effect on financial performance of tier one deposit taking SACCOs in Kenya.	F-test (ANOVA) T-test H₀: $\beta_1=0$; H_a: $\beta_1 \neq 0$	Reject H₀₁ if P-value ≤ 0.05 otherwise fail to reject H₀₁ if p- value > 0.05
H₀₂: Loan repayment has no significant effect on financial performance of tier one deposit taking SACCOs in Kenya.	F-test (ANOVA) T-test H₀: $\beta_2=0$; H_a: $\beta_2 \neq 0$	Reject H₀₂ if P-value ≤ 0.05 otherwise fail to reject H₀₂ if p- value > 0.05
H₀₃: Non-core Investment has no significant effect on financial performance of tier one deposit taking SACCOs in Kenya.	F-test (ANOVA) T-test H₀: $\beta_4=0$; H_a: $\beta_4 \neq 0$	Reject H₀₄ if P-value ≤ 0.05 otherwise Fail to reject H₀₄ if p- value > 0.05

H₀₄: Regulatory framework has no significant effect on the effect of liquidity management on financial performance of tier one deposit taking SACCOs in Kenya.	F-test (ANOVA) T-test H₀: $\beta_4=0$; H_a: $\beta_4 \neq 0$	Reject H₀₄ if P-value ≤ 0.05 otherwise Fail to reject H₀₄ if p-value > 0.05
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3.12 Ethical Considerations

The study ensured that ethics in the data collection process were maintained. The various ethical issues adhered to included ensuring that the necessary authorizations, such as from KeMU and NACOSTI, were provided through introduction letters and research permits, respectively. Furthermore, the researcher explained what the study entailed and obtained the participants' consent before subjecting them to the data collection process. Additionally, their responses were kept confidential, and none of the participants were required to provide personal details such as names, phone numbers, work codes, or emails in the questionnaire or interviews. The study also ensured that the responses given in the form of answered questionnaires and interview responses were stored in a safe, tamper-proof place. The study recruited research assistants who were of good moral standards and communicated courteously. The researcher also placed the entire study in public domains such as Google to ensure that everyone could see the results that emanated from the study.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

Both descriptive and inferential analysis were utilized in the present chapter to examine the data. The study's findings are influenced by the conceptual relationship outlined in the conceptual framework. This chapter covers topics such as response rate, validity, reliability, and assumptions related to regression analysis.

4.2 Response Rate

Of the 117 surveys distributed, only 102 were completed and returned. This accounted for 87.18% of the response rate. Stinchcombe (2020) states that a response rate of 50% is deemed sufficient, 60% is regarded as favorable, and a rate of 70% or higher is considered highly commendable. Hence, the 87.18% response rate achieved in this study is highly commendable and meets expectations. The significant response rate can be ascribed to a prevailing eagerness of participants to engage in the research. The survey captivated the majority of the respondents who participated with a sense of curiosity.

4.3 Pilot Results

4.3.1 Reliability Analysis

The reliability test results presented in Table 4.1 demonstrate the internal consistency of various scales used in the study. Cronbach's Alpha values are provided for each scale, indicating their reliability and internal consistency. Firstly, the Cash Management scale has a Cronbach's Alpha value of 0.782, which is considered acceptable. This value

suggests a good level of internal consistency, meaning the items within this scale are effectively measuring the same underlying concept. Similarly, the Loan Repayment scale has a Cronbach's Alpha value of 0.811, indicating a high level of internal consistency. This high value suggests that the items within this scale are reliably measuring the same construct, ensuring consistent results.

The Non-Core Investment scale also demonstrates good reliability with a Cronbach's Alpha value of 0.785. This value indicates that the items within this scale consistently measure the same underlying concept, confirming the scale's reliability. For the Regulatory Framework scale, a Cronbach's Alpha value of 0.773 was obtained. This value is acceptable and indicates good internal consistency, suggesting that the items within this scale are consistently measuring the same concept. Finally, the Financial Performance scale shows a Cronbach's Alpha value of 0.801, indicating a high level of internal consistency. This high value suggests that the items within this scale reliably measure the same construct, ensuring the reliability of the scale.

In summary, all the scales in the study have Cronbach's Alpha values above 0.7, the generally accepted threshold for reliability. This indicates that the scales used in the study are reliable and have good internal consistency, ensuring the robustness of the measurement tools employed in the research.

Table 4.1

Reliability Test

Scale	Cronbach's Alpha	Comments
Cash Management	0.782	Accepted
Loan Repayment	0.811	Accepted

Non-Core Investment	0.785	Accepted
Regulatory Framework	0.773	Accepted
Financial Performance	0.801	Accepted

4.3.2 Validity

Validity tests are essential in research to ensure that the methods and instruments used measure what they are intended to measure. These tests help in assessing the accuracy and relevance of the data collected. One common rule for evaluating validity is to use statistical measures, such as the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity, to determine the suitability of the data for factor analysis. These tests help verify whether the sample is adequate and whether the variables are sufficiently correlated to identify underlying factors. The KMO (Kaiser-Meyer-Olkin) index is a measure that spans from 0 to 1, with a threshold of 0.5 being widely accepted worldwide. The Bartlett's Test of Sphericity assesses the significance of the study and demonstrates the validity and appropriateness of the gathered replies in relation to the problem being investigated. In order for Factor Analysis to be considered appropriate, the Bartlett's Test of Sphericity must have a value lower than 0.05.

Firstly, the KMO measure of sampling adequacy is 0.803. The KMO statistic varies between 0 and 1, with values closer to 1 indicating that a factor analysis is appropriate. A KMO value above 0.80 is considered very good, suggesting that the sample is adequate and the variables share common factors.

Secondly, Bartlett's Test of Sphericity tests the hypothesis that the correlation matrix is an identity matrix, meaning variables are unrelated and unsuitable for structure detection. The approximate Chi-Square value is 829.328 with 10 degrees of freedom and a

significance level (Sig.) of 0.000. This significance level is less than 0.05, indicating that the null hypothesis can be rejected. Therefore, the correlation matrix is not an identity matrix, suggesting that there are significant correlations among the variables.

In summary, the KMO measure indicates that the sample is adequate for factor analysis, and Bartlett's Test of Sphericity confirms that there are significant correlations among the variables, making them suitable for factor analysis.

Table 4.2

KMO and Bart Test

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.863
Bartlett's Test of Sphericity Approx. Chi-Square	432.330
df	10
Sig.	.000

4.4 Demographics

4.4.1 Level of Education

The educational attainment levels of the surveyed population are presented in table 4.3, revealing a diverse distribution of qualifications among the respondents. The largest proportion of individuals holds a Master's degree, accounting for 35% of the total sample. This indicates a significant representation of advanced education in the population. Following this, individuals with a College Diploma constitute 31% of the sample, suggesting a substantial portion with technical or vocational training.

Undergraduate degree holders represent 24% of the respondents, indicating a moderate level of individuals with a bachelor's degree. Lastly, those with a PhD make up 10% of the sample, highlighting a smaller segment with the highest level of academic achievement. Overall, the total sample size is 102 respondents, providing a comprehensive view of educational levels. The distribution shows a well-represented mix of educational

qualifications, with a notable emphasis on advanced degrees, which may imply a population with significant academic and professional expertise.

Table 4.3

Level of Education

Level	Frequency	Percent (%)
College Diploma	32	31
Undergraduate	24	24
Masters	36	35
PhD	10	10
TOTAL	102	100.0

4.4.2 Operation Period

The data on the operation period of the surveyed entities reveals a broad spectrum of operational tenures. A significant portion of the respondents, constituting 45%, have been in operation for more than 15 years. This indicates a strong presence of well-established entities with considerable experience and stability in their respective fields.

Entities that have been operating between 11 to 15 years make up 31% of the sample, further emphasizing the substantial number of mature and experienced organizations. Together, these two categories represent 76% of the total, suggesting that a large majority of the respondents are seasoned players with extensive operational histories.

On the other hand, organizations with an operation period of 6 to 10 years' account for 14% of the sample. While this is a smaller segment, it still reflects a notable presence of entities that have surpassed the initial stages of establishment and are moving towards

maturity. Finally, those with less than 5 years of operation comprise 10% of the respondents. This indicates a minority of newer entities, which may be in the early phases of growth and development.

Overall, the total sample size is 102 respondents, providing a comprehensive overview of the operation periods. The distribution indicates a predominance of long-established entities, suggesting a landscape dominated by experienced and potentially stable organizations.

Table 4.4

Operation Period

Operation Period	Frequency	Percent (%)
Less than 5 years	10	10
6-10 years	14	14
11 - 15 years	32	31
Above 15 years	46	45
TOTAL	102	100.0

4.5 Descriptive Results

This section presents the descriptive findings. The analysis in the study utilized percentages, frequencies, mean values, and standard deviations. The results indicated the respondents' reactions to different assertions in the surveys using a scale ranging from strongly agree to strongly disagree. This section provides an overview of the descriptive findings for the dependent variable.

4.5.1 Cash Management

The study sought to determine the effect of cash management on financial performance of tier one deposit taking SACCOs in Kenya. The data on cash management practices among the surveyed SACCOs (Savings and Credit Cooperative Organizations) reveals a generally high level of effective financial management, as reflected in the mean scores of various statements. The statement "Cash budgeting practices are effectively implemented to optimize financial performance" received a mean score of 4.1765 with a standard deviation of 0.58719. This indicates a strong agreement among respondents that their SACCOs implement effective cash budgeting practices, contributing to optimal financial performance. The relatively low standard deviation suggests that this perception is consistently held across the sample.

Similarly, the allocation of member deposits is perceived to be strategically managed to enhance financial stability, as indicated by a mean score of 4.1078 and a standard deviation of 0.46473. The low standard deviation further reinforces the consistency of this view, suggesting that SACCOs prioritize the strategic management of member deposits. The highest mean score of 4.2353, with a standard deviation of 0.54820, was attributed to the statement that SACCOs have a well-defined liquidity management policy aligning with industry standards. This underscores the importance of robust liquidity management policies in ensuring financial stability and adherence to industry norms.

Efficiency in utilizing member deposits to generate returns and improve financial performance also received a high mean score of 4.1569 with a standard deviation of 0.48226. This indicates a general consensus that SACCOs are effective in leveraging member deposits to enhance financial outcomes. However, the effectiveness of liquidity

management policies in mitigating financial risks and ensuring stability received a comparatively lower mean score of 3.8333 and a higher standard deviation of 0.80939. This suggests some variability in perceptions, indicating that while many SACCOs have effective policies, there may be room for improvement in others.

Cash budgeting practices contributing significantly to cost reduction and efficient resource allocation had a mean score of 3.8627 and a standard deviation of 0.82100. This highlights a positive but slightly more varied perception of the impact of cash budgeting on cost efficiency and resource allocation. Finally, the role of member deposits in enhancing overall financial performance and growth received a mean score of 3.9020 with a standard deviation of 0.85027. This reflects a generally positive view, though with some variation, on the critical role of member deposits in driving the financial success and growth of SACCOs.

In summary, the data reveals a strong overall confidence in the cash management practices among SACCOs, particularly in areas of cash budgeting, strategic allocation of deposits, and adherence to liquidity management policies. However, there are some areas, particularly in risk mitigation and resource allocation, where perceptions are more varied, suggesting opportunities for further enhancement.

Recent studies reinforce the finding that effective cash management significantly enhances the financial performance of SACCOs in Kenya. A study by Kyenze (2023) analyzed financial management practices across SACCOs in Nairobi and found a strong positive correlation between cash asset management practices and financial performance. The study emphasized that cash budgeting and liquidity management are crucial for maintaining financial stability and optimizing financial performance, aligning with the

observed effective cash budgeting practices and robust liquidity management policies in SACCOs. Similarly, a study by Maina et al. (2020) investigated the impact of cash management practices and SACCO size on financial sustainability. It concluded that SACCOs with sound cash management practices and larger operational scales exhibited greater financial stability and performance. This study highlighted the importance of strategic management of cash flows and maintaining a cash book to optimize cash asset management, echoing the strategic allocation of member deposits and efficient utilization practices reported in the original study (Maina et al., 2020). Both studies confirm that strategic cash management practices are vital for enhancing the financial outcomes of SACCOs, supporting the findings of high confidence in cash budgeting and liquidity management among Kenyan SACCOs.

Table 4.5***Cash Management***

Statement	N	Mean	Std. Dev
Cash budgeting practices are effectively implemented in to optimize financial performance.	102	4.1765	.58719
Allocation of member deposits is strategically managed to enhance the financial stability of our SACCO	102	4.1078	.46473
Our SACCO has a well-defined liquidity management policy that aligns with industry standards	102	4.2353	.54820
Member deposits are efficiently utilized to generate returns and improve the financial performance of our SACCO	102	4.1569	.48226
The liquidity management policy of our SACCO effectively mitigates financial risks and ensures stability	102	3.8333	.80939
Cash budgeting practices contribute significantly to cost reduction and efficient resource allocation	102	3.8627	.82100
Member deposits play a crucial role in enhancing the overall financial performance and growth of our SACCO.	102	3.9020	.85027
Valid N (listwise)	102		

4.5.2 Loan Repayment

The study sought to examine the effect of loan repayment on financial performance of tier one deposit taking SACCOs in Kenya. The data on loan repayment practices among the surveyed SACCOs provides insight into various aspects influencing financial performance and stability. Members' satisfaction with the loan products offered by SACCOs is perceived to have a positive influence on financial performance, as indicated by a high mean score of 4.1471 and a relatively low standard deviation of 0.43137. This

suggests a strong and consistent agreement among respondents that member satisfaction is a critical factor in driving financial success.

The proactive measures taken by SACCOs to prevent and address instances of loan delinquency received a mean score of 3.7745 with a standard deviation of 0.96377. While there is a general agreement on the importance of these measures, the higher standard deviation indicates considerable variability in perceptions, suggesting that the effectiveness of such measures may vary significantly among different SACCOs. Maintaining a healthy growth rate in the gross loan portfolio is seen as a strong indicator of financial performance, with a high mean score of 4.2549 and a standard deviation of 0.72694. This reflects a broad consensus that growth in the loan portfolio is a key measure of financial health and success.

Continuous evaluation and enhancement of loan products to align with members' needs and financial goals is also viewed positively, with a mean score of 4.1078 and a standard deviation of 0.59548. This indicates that many SACCOs are committed to adapting their loan offerings to better serve their members, which is crucial for maintaining competitiveness and member satisfaction. The importance of effective management of the gross loan portfolio for financial sustainability is highlighted by a mean score of 3.7059 and a standard deviation of 0.83947. While there is general agreement on its importance, the variability in responses suggests that the effectiveness of portfolio management practices may differ across SACCOs.

Lastly, the control of loan delinquency levels to maintain financial stability received a mean score of 3.9804 with a standard deviation of 0.78325. This indicates a generally positive view of SACCOs' ability to manage delinquency, though the variation in

responses suggests some differences in the effectiveness of these controls among the surveyed SACCOs.

Overall, the data reflects a strong focus on member satisfaction, proactive delinquency management, and continuous product enhancement as key factors influencing financial performance. However, it also highlights areas where variability in practice and perception suggests opportunities for improvement in loan portfolio management and delinquency control.

Recent studies validate the positive impact of loan repayment practices on the financial performance of SACCOs. A study by Nshimiyimana and Nkurunziza (2023) investigated the effect of loan repayment on the financial performance of SACCOs in Rwanda, specifically focusing on Umwalimu SACCO. The study found that effective loan follow-up policies and loan recovery practices significantly enhance financial performance, with regression coefficients indicating substantial positive impacts (Nshimiyimana & Nkurunziza, 2023). These findings align with the observed high satisfaction with loan products and proactive measures in addressing loan delinquency among Kenyan SACCOs, emphasizing the importance of these practices for financial stability and success. Similarly, the study by Gitonga and Mutembei (2022) examined credit risk identification's role in loan repayment performance among SACCOs in Meru, Kenya. This study demonstrated a significant relationship between effective credit risk identification and improved loan repayment, which in turn positively influenced financial performance (Gitonga & Mutembei, 2022). These studies corroborate the original findings that continuous evaluation and enhancement of loan products and proactive delinquency management are critical for maintaining financial health and stability in SACCOs.

Table 4.6***Loan Repayment***

Statements	N	Mean	Std. Dev
Members' satisfaction with the loan products offered by our SACCO positively influences its financial performance	102	4.1471	.43137
Proactive measures are taken by our SACCO to prevent and address instances of loan delinquency	102	3.7745	.96377
Maintaining a healthy growth rate in the gross loan portfolio is indicative of financial performance.	102	4.2549	.72694
Our SACCO continuously evaluates and enhances its loan products to align with members' needs and financial goals.	102	4.1078	.59548
Effective management of the gross loan portfolio is crucial for the financial sustainability of our SACCO.	102	3.7059	.83947
The level of loan delinquency in our SACCO is adequately controlled to maintain financial stability.	102	3.9804	.78325
Valid N (listwise)	102		

4.5.3 Non-Core Investment

The analysis of non-core investment practices among the surveyed SACCOs sheds light on how these organizations manage external borrowing and non-financial investments to optimize financial performance and mitigate risks. The statement "The external borrowing ratio of our SACCO is maintained at an appropriate level to mitigate financial risks" has a mean score of 3.9804 with a std dev of 0.73093. This suggests a strong agreement that

maintaining an appropriate external borrowing ratio is crucial for managing financial risks, although there is some variability in responses.

Non-financial investments are perceived to contribute positively to the overall financial performance of SACCOs, as indicated by a mean score of 4.0588 and a std dev of 0.84225. The relatively higher standard deviation here suggests a moderate degree of variability in how different SACCOs view the impact of these investments on their financial performance.

Effective management of non-earning assets is considered essential for optimizing the financial position of SACCOs, reflected by a mean score of 4.0000 and a std dev of 0.52652. The lower standard deviation indicates a strong consensus on the importance of managing non-earning assets efficiently. Maintaining a balanced external borrowing ratio is deemed crucial for sustaining the financial health of SACCOs, with a high mean score of 4.1569 and a standard deviation of 0.50237. This underscores a broad agreement on the importance of this practice for financial stability.

The statement "non-financial investments diversify our SACCO's revenue streams and enhance its financial resilience" received a mean score of 3.9510 with a standard deviation of 0.69478. This highlights the perceived value of non-financial investments in enhancing financial resilience, although there is some variation in the responses. The careful monitoring and management of the external borrowing ratio to optimize financial performance is strongly agreed upon, as shown by a high mean score of 4.1373 and a relatively low std dev of 0.34582. This indicates a consistent and strong belief in the importance of this practice.

Finally, the effective management of non-earning assets to enhance financial performance is reflected in a mean score of 3.9314 with a std dev of 0.76118. While there is a general agreement, the variability in responses suggests differences in how effectively SACCOs manage these assets.

In summary, the data indicates a strong consensus on the importance of maintaining appropriate external borrowing ratios, managing non-financial investments, and effectively handling non-earning assets to optimize financial performance and mitigate risks. However, the variability in some responses suggests that there are differences in how these practices are implemented across different SACCOs, pointing to potential areas for improvement and best practice sharing.

Recent studies corroborate the significant effect of non-core investments on the financial performance of SACCOs. A study by Ogum and Jagongo (2022) explored investment decisions and their impact on the financial performance of DT SACCOs in Nairobi. The study highlighted those investments in real estate had an insignificant inverse effect, while lending to members for development had a significant positive effect on financial performance. Investments in FOSA products and money and bond markets showed varying impacts, with some positively influencing financial outcomes (Ogum & Jagongo, 2022). This aligns with the finding that non-financial investments can contribute positively to financial performance, albeit with variability in outcomes among different SACCOs. Another study by Mwangi and Ombui (2018) examined factors affecting the financial performance of SACCOs in Nairobi, including investment decisions, which were found to be based on risk management and stakeholder involvement. The study found that well-established investment committees played a crucial role in making informed

investment decisions, thereby impacting the financial stability and performance of SACCOs (Mwangi & Ombui, 2018). These findings support the importance of managing non-core investments effectively to optimize financial performance and mitigate risks.

Table 4.7

Non-Core Investment

Statements	N	Mean	Std. Dev
The external borrowing ratio of our SACCO is maintained at an appropriate level to mitigate financial risks	102	3.9804	.73093
Non-financial investments contribute positively to the overall financial performance of our SACCO	102	4.0588	.84225
Effective management of non-earning assets is essential for optimizing the financial position of our SACCO	102	4.0000	.52652
Maintaining a balanced external borrowing ratio is crucial for sustaining the financial health of our SACCO	102	4.1569	.50237
Non-financial investments diversify our SACCO's revenue streams and enhance its financial resilience	102	3.9510	.69478
External borrowing ratio is carefully monitored and managed to optimize financial performance	102	4.1373	.34582
Non-earning assets in our SACCO are effectively managed to enhance financial performance	102	3.9314	.76118
Valid N (listwise)	102		

4.5.4 Regulatory Framework

The data on the regulatory framework practices among the surveyed SACCOs highlights the importance of compliance and the impact of regulatory requirements on financial health and operational efficiency. The statement "Compliance with regulatory requirements is a top priority" has a mean score of 3.7255 with a std dev of 0.97653. This

indicates a general agreement on the importance of regulatory compliance, though the higher standard deviation suggests varying levels of prioritization across SACCOs.

The perception that "Non-compliance with regulatory standards poses significant risks to the financial health of our SACCO" has a mean score of 3.7549 and a std dev of 1.09396. The substantial standard deviation here reflects diverse opinions on the severity of risks associated with non-compliance, indicating that while many see it as a significant threat, others may not view it as critically. "Lending policy is aligned with regulatory guidelines to ensure prudent risk management" received a mean score of 4.1667 with a std dev of 0.83350. This high mean score demonstrates strong agreement on the importance of aligning lending policies with regulatory guidelines for effective risk management.

Adherence to the lending policy is seen as crucial for safeguarding financial stability and performance, as indicated by a mean score of 3.9510 and a std dev of 0.72272. The relatively lower standard deviation suggests a consensus on the importance of following established lending policies. "Inadequate membership oversight increases the likelihood of regulatory violations and financial risks" has a high mean score of 4.1765 and a std dev of 0.63576, indicating a strong belief that robust membership oversight is essential to prevent regulatory violations and mitigate financial risks.

The statement that "Non-compliance with regulatory requirements adversely affects our SACCO's reputation and member trust" received a mean score of 3.9216 with a std dev of 0.72694. This reflects a general agreement on the negative consequences of non-compliance, though there is some variation in how strongly this view is held. Finally, the perception that "Overly burdensome regulatory reporting requirements hinder operational efficiency and financial performance" has a mean score of 4.2059 and a relatively low std

dev of 0.40634. This indicates a strong consensus that regulatory reporting requirements can negatively impact efficiency and performance when they are excessively burdensome.

In summary, the data indicates a broad recognition of the importance of regulatory compliance, alignment of lending policies with guidelines, and the impact of oversight on mitigating risks. However, there are varying perceptions of the risks associated with non-compliance and the burden of regulatory requirements, highlighting areas where different SACCOs may experience challenges or prioritize their efforts differently.

Recent studies highlight the significant impact of regulatory frameworks on the financial performance of SACCOs. Another study by Jumba (2021) explored the effects of SACCO regulations on financial performance in Kenya, specifically in Nairobi. The study found a positive correlation between SACCO regulations and key financial metrics such as share capital, liquidity position, and dividends. The findings underscore the importance of regulatory compliance in safeguarding financial stability and enhancing SACCO performance through stringent oversight and governance (Jumba, 2021). These studies align with the observed data that emphasize the critical role of regulatory compliance, alignment of lending policies with guidelines, and robust membership oversight in mitigating financial risks and optimizing financial performance.

Table 4.8

Regulatory Framework

Statements	N	Mean	Std. Dev
Compliance with regulatory requirements is a top priority	102	3.7255	.97653
Non-compliance with regulatory standards poses significant risks to the financial health of our SACCO	102	3.7549	1.09396

Lending policy is aligned with regulatory guidelines to ensure prudent risk management.	102	4.1667	.83350
Adherence to lending policy safeguards our SACCO's financial stability and performance	102	3.9510	.72272
Inadequate membership oversight increases the likelihood of regulatory violations and financial risks.	102	4.1765	.63576
Non-compliance with regulatory requirements adversely affects our SACCO's reputation and member trust	102	3.9216	.72694
Overly burdensome regulatory reporting requirements hinder operational efficiency and financial performance	102	4.2059	.40634
Valid N (listwise)	102		

4.5.5 Financial Performance

Findings from the survey of SACCOs' financial performance shed light on the many determinants of these organizations' monetary well-being and prosperity. The average score for the statement "Profit margin is satisfactory compared to industry benchmarks" is 3.8431 and the std dev is 0.89824. In spite of widespread contentment with profit margins, the larger standard deviation reveals substantial variation in the degree to which individual SACCOs evaluate their own profitability in comparison to benchmarks in the sector.

With a mean score of 4.1863 and a std dev of 0.75427, the membership growth rate is perceived as having a considerable positive impact on financial success. With some fluctuation in the degree of this idea, this demonstrates an agreement that expanding membership is necessary for financial success. As a dependable indication of financial health and performance, the SACCO's profit margin has a mean score of 4.1078 and a std

dev of 0.67350. As a measure of financial health, profit margins are highly valued by respondents, as indicated by the smaller standard deviation.

The average score was 3.9020 with a std dev of 0.81459. This indicates that more members are seen as having a direct correlation with total wealth. While most would agree, the wide range of responses suggests that various SACCOs may feel the effects of increased membership differently. With a std dev of 0.82947, the statement "Operating expenses are efficiently allocated to maximize profitability" was given an average score of 4.1509. Although there is some diversity in replies, the high mean score highlights that efficient spending allocation is crucial for optimizing profitability. However, it is worth noting that different SACCOs handle this issue in different ways.

Lastly, a mean score of 3.9902 and a std dev of 0.72433 display the diligent tracking and control of operational expenditures to guarantee conformity with financial goals. This demonstrates that most people agree that managing expenses is important, but there is considerable disagreement about how strictly this should be enforced.

Ultimately, the numbers point to a focus on expanding the membership base, increasing profit margins, and effectively controlling expenses as critical success factors. There is room for improvement in the sector's financial performance that might be addressed by sharing best practices and strategies, given the fact that certain replies were somewhat variable, which implies that SACCOs may face varying degrees of success and difficulties in these areas.

Findings from recent research on what makes SACCOs successful financially are quite helpful. In his analysis of SACCO income growth drivers, Gikunju (2023) emphasized the

importance of loan default, operational expenses, and membership size. The study revealed that financial performance is severely affected by loan default, which results in losses, but a bigger membership base improves income generation and overall financial health (Gikunju, 2023). The focus on increasing membership and effectively managing expenses as critical elements of SACCOs' financial performance is in line with this. Financial performance and financial leverage were investigated in another study by Kathuo et al. (2020) to determine the impact on dividend distributions in SACCOs in Kenya. Based on the study's findings, SACCOs' capacity to pay dividends sustainably is heavily influenced by financial performance, namely Return on Equity (ROE), and financial leverage. A well-balanced financial structure is crucial for long-term financial stability and performance, since it was shown that dividend distributions are inversely affected by high debt ratios. In order to maximize financial success, these results confirm that profit margins and the effective allocation of operational expenditures are crucial.

Table 4.9

Financial Performance

Statements	N	Mean	Std. Dev
Profit margin is satisfactory compared to industry benchmarks.	102	3.8431	.89824
The growth rate of membership base positively influences its financial performance	102	4.1863	.75427
The profit margin of our SACCO is a reliable indicator of its financial health and performance	102	4.1078	.67350
Membership growth is directly correlated with the overall financial success of our SACCO	102	3.9020	.81459

operating expenses are efficiently allocated to maximize profitability	102	4.1569	.82947
Actively monitor and manage operating expenses to ensure they remain in line with our financial objectives	102	3.9902	.72433
Valid N (listwise)	102		

4.6 Secondary Data on Financial Performance

4.6.1 Profit Margin

The analysis of the annual mean for profit margins from 2019 to 2023 reveals several key insights into the performance trends of SACCOs over this period. The table reflects the average profitability, measured by the profit margin, across a sample of 20 SACCOs each year, along with the standard deviation (Std), minimum (Min), and maximum (Max) values.

Starting in 2019, the mean profit margin for the SACCOs was 9.3%, with a standard deviation of 0.79%. This indicates that while the average SACCO achieved a profit margin slightly above 9%, there was a moderate spread in profitability among the SACCOs, with the lowest profit margin being 7.89% and the highest reaching 10.87%. This range suggests that while some SACCOs were operating at relatively high efficiency, others were struggling to achieve similar levels of profitability.

Moving into 2020, the mean profit margin increased slightly to 9.58%, accompanied by a slightly lower std dev of 0.75%. The narrowing of the standard deviation suggests a slight reduction in variability among SACCOs' profitability, indicating that some of the lower-performing SACCOs may have improved, reducing the gap between the best and worst performers. The minimum profit margin rose to 8.48%, while the maximum increased to

10.96%, further supporting the idea that SACCOs were generally performing better in 2020 than in the previous year.

In 2021, the mean profit margin continued its upward trajectory, reaching 9.83%. The standard deviation, however, rose to 0.82%, suggesting a slight increase in variability among the SACCOs' profitability. The minimum profit margin decreased to 8.02%, indicating that at least one SACCO faced challenges that resulted in lower profitability, while the maximum profit margin increased to 11.12%, showing that the top-performing SACCOs were able to push their profitability even higher. This growing spread between the minimum and maximum values points to a widening performance gap within the industry, where some SACCOs were thriving while others were falling behind.

By 2022, the mean profit margin had stabilized at 9.86%, with a standard deviation of 0.78%. The minimum profit margin increased to 8.54%, suggesting that the lower-performing SACCOs had begun to recover or improve their operations. Simultaneously, the maximum profit margin rose significantly to 11.76%, the highest observed over the five-year period. This increase in the maximum value highlights that the best-performing SACCOs were able to capitalize on favorable conditions or effective strategies to significantly boost their profitability. The stable mean and standard deviation, along with the higher minimum and maximum values, indicate a general improvement in SACCO performance, although the gap between the best and worst performers remained notable.

Finally, in 2023, the mean profit margin reached its highest level at 10.07%, marking a significant improvement from 2019. The standard deviation remained steady at 0.8%, indicating consistent variability in SACCO performance. The minimum profit margin slightly increased to 8.61%, while the maximum decreased marginally to 11.56%. This

suggests that while the industry overall was more profitable, the top-performing SACCOs saw a slight reduction in their maximum profit margins, potentially due to market saturation, increased competition, or external economic factors. The continued rise in the mean profit margin over the years indicates a positive trend in profitability across the industry, with SACCOs generally improving their operational efficiency and financial management.

In summary, the analysis of the annual mean profit margins from 2019 to 2023 reveals a general trend of increasing profitability among SACCOs, with the mean profit margin rising steadily each year. The standard deviations suggest moderate variability in performance, with a notable range between the lowest and highest profit margins in each year. While the overall industry trend is positive, the differences in profitability between the best and worst-performing SACCOs highlight ongoing challenges and opportunities within the sector. SACCOs that have successfully navigated these years have likely implemented effective strategies, but there remains room for improvement, particularly among those at the lower end of the performance spectrum.

Table 4.10

Annual Mean for Profit Margin

Measurement Aspects	Obs	Mean	Std	Min	Max
2019	20.0	9.3	0.79	7.89	10.87
2020	20.0	9.58	0.75	8.48	10.96
2021	20.0	9.83	0.82	8.02	11.12
2022	20.0	9.86	0.78	8.54	11.76

2023	20.0	10.07	0.8	8.61	11.56
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4.6.2 Membership Growth

The analysis of the annual mean membership growth from 2019 to 2023 provides important insights into the expansion dynamics of SACCOs over this period. The table illustrates the average growth in membership, measured as a percentage, across 20 SACCOs each year, along with the standard deviation (Std), minimum (Min), and maximum (Max) values.

In 2019, the mean membership growth stood at 3.94%, indicating that, on average, SACCOs were growing their membership base by just under 4%. The standard deviation of 0.48% reflects moderate variability in membership growth among the SACCOs, with the lowest recorded growth at 3.19% and the highest at 4.85%. This suggests that while most SACCOs were experiencing positive growth, there was a noticeable difference in the rate at which they were expanding their membership bases, with some performing significantly better than others.

In 2020, the mean membership growth increased to 4.17%, indicating an overall improvement in the ability of SACCOs to attract and retain members. The standard deviation remained relatively stable at 0.49%, suggesting that the variability in membership growth among SACCOs was consistent with the previous year. The minimum growth increased to 3.34%, and the maximum growth reached 5.26%. This increase in both the minimum and maximum values suggests that while the industry as a whole was growing, some SACCOs were particularly successful in accelerating their

membership growth, potentially due to targeted marketing efforts, improved member services, or favorable economic conditions.

By 2021, the mean membership growth had further increased to 4.42%, with a slightly lower std dev of 0.42%. The reduction in standard deviation indicates that the differences in membership growth rates among SACCOs were narrowing, suggesting a more uniform improvement across the sector. The minimum growth increased to 3.64%, while the maximum growth slightly decreased to 5.19%. This narrowing range between the minimum and maximum values implies that most SACCOs were experiencing similar levels of success in growing their memberships, reflecting a more standardized approach or broader industry trends that benefited all players.

In 2022, the mean membership growth rose to 4.65%, continuing the upward trend observed in previous years. The standard deviation increased slightly to 0.44%, indicating a modest increase in variability among SACCOs. The minimum growth rose to 3.86%, while the maximum growth increased to 5.54%, the highest recorded during this period. The increased range between the minimum and maximum values suggests that while the industry overall was experiencing healthy growth, some SACCOs were able to outperform others significantly, possibly due to innovative strategies, enhanced member benefits, or stronger community ties.

Finally, in 2023, the mean membership growth reached 4.93%, marking the highest average growth rate over the five-year period. The standard deviation remained stable at 0.45%, indicating consistent variability in growth rates across SACCOs. The minimum growth increased to 3.95%, while the maximum growth reached 5.85%. This continued upward trend in both the mean and range of membership growth indicates that SACCOs

were increasingly successful in expanding their member bases, likely benefiting from cumulative efforts over the years, such as improved services, greater outreach, and stronger member engagement strategies.

In summary, the analysis of the annual mean membership growth from 2019 to 2023 highlights a consistent and positive trend in SACCOs' ability to grow their membership bases. The steady increase in the mean growth rate each year reflects the sector's overall success in attracting and retaining members, while the standard deviations indicate moderate but consistent variability in performance among individual SACCOs. The gradual increase in both the minimum and maximum growth rates suggests that while all SACCOs have generally improved, some have been particularly successful in leveraging their strategies to achieve higher-than-average growth. This trend underscores the importance of continuous innovation and member-focused initiatives in sustaining and enhancing growth in the highly competitive SACCO sector.

Table 4.11***Annual Mean for Membership Growth***

Measurement Aspects	Obs	Mean	Std	Min	Max
2019	20.0	3.94	0.48	3.19	4.85
2020	20.0	4.17	0.49	3.34	5.26
2021	20.0	4.42	0.42	3.64	5.19
2022	20.0	4.65	0.44	3.86	5.54
2023	20.0	4.93	0.45	3.95	5.85

4.6.3 Operating Expenses

The analysis of the annual mean for operating expenses from 2019 to 2023 provides critical insights into the cost dynamics within SACCOs over this five-year period. The table reflects the average operating expenses across 20 SACCOs each year, along with the standard deviation (Std), minimum (Min), and maximum (Max) values, offering a comprehensive view of the financial pressures faced by these institutions.

In 2019, the mean operating expenses for SACCOs were recorded at 457.34 units (likely thousands or millions depending on the currency context). The std dev was 24.63, indicating a moderate spread in the operating expenses among the SACCOs. The minimum operating expense was 422.7, while the maximum was 523.58. This range shows that while most SACCOs operated within a similar cost structure, some faced

significantly higher expenses, which could be attributed to larger operational scales, higher employee costs, or more extensive service offerings.

In 2020, the mean operating expenses increased to 468.59, reflecting a rise in the costs associated with running SACCOs. The standard deviation also increased to 27.12, suggesting greater variability in operating expenses across SACCOs. The minimum operating expense decreased to 409.75, while the maximum rose to 535.61. The increase in the maximum value indicates that some SACCOs faced substantial cost increases, possibly due to expansion efforts, inflationary pressures, or investments in new technologies. The wider range between the minimum and maximum values suggests that while some SACCOs managed to control their costs effectively, others saw a significant rise in their expenses.

By 2021, the mean operating expenses continued to rise, reaching 478.85, with a further increase in the standard deviation to 30.04. This indicates an even greater variability in operating expenses among SACCOs, reflecting the diverse strategies and operational scales within the sector. The minimum expense rose to 441.86, while the maximum increased to 550.83. This continued upward trend in both the mean and range of operating expenses suggests that SACCOs were generally experiencing higher costs, possibly due to ongoing investments in infrastructure, technology, and human resources, as well as the need to meet growing regulatory demands.

In 2022, the mean operating expenses rose to 489.01, while the standard deviation decreased slightly to 29.01. This slight reduction in variability suggests that while costs continued to rise, the differences in operating expenses among SACCOs became somewhat more uniform. The minimum expense increased to 443.38, and the maximum

expense reached 560.54, the highest recorded during this period. The continued increase in the maximum value suggests that some SACCOs were significantly expanding or upgrading their operations, leading to higher costs, while others maintained a more controlled cost structure.

Finally, in 2023, the mean operating expenses reached 500.71, marking the highest average over the five-year period. Interestingly, the standard deviation decreased to 24.05, indicating reduced variability in operating expenses across SACCOs. The minimum expense rose to 468.52, while the maximum slightly decreased to 558.53. The decrease in the std dev and the slight reduction in the maximum value suggest that SACCOs were becoming more similar in their cost structures, possibly due to industry-wide cost control measures or shared responses to external economic factors.

In summary, the analysis of the annual mean operating expenses from 2019 to 2023 reveals a clear upward trend in the costs associated with running SACCOs. The steady increase in the mean operating expenses each year highlights the growing financial pressures faced by these institutions, likely driven by expansion, regulatory compliance, and the need to invest in new technologies and services. The variations in standard deviations and the range between minimum and maximum values over the years suggest that while SACCOs are generally experiencing rising costs, the degree to which these costs impact individual institutions varies. Some SACCOs have managed to control their expenses effectively, while others have seen significant increases, potentially reflecting differing strategic priorities or operational challenges. Overall, the trend underscores the importance of effective cost management and the need for SACCOs to continuously adapt to the financial demands of their operational environments.

Table 4.12***Annual Mean for Operating Expenses***

Measurement Aspects	Obs	Mean	Std	Min	Max
2019	20.0	457.34	24.63	422.7	523.58
2020	20.0	468.59	27.12	409.75	535.61
2021	20.0	478.85	30.04	441.86	550.83
2022	20.0	489.01	29.01	443.38	560.54
2023	20.0	500.71	24.05	468.52	558.53

4.7 Correlation Analysis

In order to better understand the linkages and effects of these factors on the financial health of SACCOs, it is helpful to conduct a correlation study between financial performance and other variables. There is a significantly significant ($p < 0.01$) Pearson correlation value of 0.787 between cash management and financial performance. This robust positive association suggests that better financial success is directly linked to efficient cash management strategies. The term "cash management" refers to a set of procedures and policies aimed at controlling and allocating monetary resources. There is a strong relationship between the two variables, thus SACCOs that do well in both areas could expect better financial results overall. Improved financial performance is the result of better cash management, which increases the availability of funds for operations, decreases financial risks, and makes it easier to take advantage of investment possibilities.

The correlation between financial performance and loan repayment is also substantial, with a Pearson correlation coefficient of 0.622 ($p < 0.01$). This significant positive

relationship highlights the importance of efficient loan repayment processes in driving the financial success of SACCOs. Loan repayment involves the collection of funds from borrowers and managing delinquency rates. Effective loan repayment strategies help maintain a healthy cash flow, reduce default rates, and improve the overall financial stability of the organization. SACCOs with robust loan repayment systems are better positioned to sustain their operations and achieve favourable financial performance.

Non-core investment has a moderate positive correlation with financial performance, as indicated by a Pearson correlation coefficient of 0.515 ($p < 0.01$). While this correlation is not as strong as those with cash management and loan repayment, it still indicates a meaningful relationship. Non-core investments refer to investments outside the primary lending activities of the SACCO, such as investments in real estate or other financial instruments. These investments can diversify revenue streams and provide additional income, contributing to financial performance. However, the moderate correlation suggests that while non-core investments are beneficial, their impact on financial performance is less pronounced compared to core financial management activities.

The correlation between financial performance and the regulatory framework is strong, with a Pearson correlation coefficient of 0.644 ($p < 0.01$). This significant positive relationship underscores the critical role of regulatory compliance in ensuring the financial stability and performance of SACCOs. The regulatory framework includes adherence to legal standards, financial reporting requirements, and governance practices. Compliance with these regulations helps mitigate financial risks, build member trust, and enhance the reputation of the SACCO. A strong regulatory framework ensures that SACCOs operate

within established guidelines, reducing the likelihood of financial mismanagement and promoting sustainable financial performance.

In summary, the analysis shows that financial performance in SACCOs is most strongly influenced by effective cash management and adherence to regulatory frameworks, followed by efficient loan repayment practices and non-core investments. These relationships highlight the importance of robust financial management and regulatory compliance in achieving favourable financial outcomes.

Table 4.13

Correlations Analysis

		FP	CM	LR	NCI	RF
FP	Pearson Correlation	1	.787**	.622**	.515**	.644**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	102	102	102	102	102
CM	Pearson Correlation	.787**	1	.871**	.424**	.481**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	102	102	102	102	102
LR	Pearson Correlation	.622**	.871**	1	.401**	.507**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	102	102	102	102	102
NCI	Pearson Correlation	.515**	.424**	.401**	1	.838**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	102	102	102	102	102
RF	Pearson Correlation	.644**	.481**	.507**	.838**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	102	102	102	102	102

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

Key: CM-Cash Management: LR-Loan Repayment: NCI- Non-Core Investment: RF-Regulatory Framework: FP- Financial Performance

4.8 Model Diagnostics

This section comprises tests for both the dependent and independent variables in order to assess the practicality of doing a regression analysis test. This involves the analysis of normalcy, multicollinearity, and linearity criteria.

4.8.1 Normality Test using Kolmogorov-Smirnov

The analysis of Table 4.14, which presents the results of the Tests of Normality for various financial metrics, provides crucial insights into the distribution characteristics of the data. The table includes two widely used tests for assessing normality: the Kolmogorov-Smirnov (K-S) test and the Shapiro-Wilk test. These tests help determine whether the data for each financial metric follows a normal distribution, which is a common assumption for many statistical analyses.

For Cash Management, the K-S test yielded a statistic of 0.123 with a significance (Sig.) value of 0.120, while the S-W test produced a statistic of 0.940 with a significance value of 0.065. Both tests suggest that the data does not significantly deviate from a normal distribution. The significance values for both tests are above the typical threshold of 0.05, indicating that we fail to reject the null hypothesis that the data is normally distributed. Thus, it is reasonable to assume that the Cash Management data follows a normal distribution, making it suitable for parametric analyses.

Similarly, the Loan Repayment data shows no significant deviation from normality. The Kolmogorov-Smirnov test reported a statistic of 0.135 with a significance value of 0.085, while the S-W test yielded a statistic of 0.950 with a significance value of 0.080. With p-values above 0.05, the assumption of normality holds for Loan Repayment as well. This suggests that the data is symmetrically distributed, which is favorable for further parametric analysis.

The Non-Core Investment metric also aligns with the other metrics in showing no significant departure from normality. The K-S test returned a statistic of 0.145 with a significance value of 0.095, while the S-W test produced a statistic of 0.910 with a significance value of 0.070. Both tests yield p-values greater than 0.05, implying that the distribution of Non-Core Investment data can be considered normal. This allows for reliable parametric statistical analyses, such as ANOVA or regression, to be conducted on this dataset.

For the Regulatory Framework metric, the normality tests again indicate that the data is not significantly different from a normal distribution. The K-S test reported a statistic of 0.130 with a significance value of 0.110, and the S-W test yielded a statistic of 0.930 with a significance value of 0.055. Although the S-W test is more sensitive for smaller sample sizes, the p-values are still slightly above 0.05. This suggests that the Regulatory Framework data is approximately normally distributed, supporting the validity of using parametric tests in subsequent analyses.

Lastly, the Financial Performance data follows the same trend, with the K-S test producing a statistic of 0.140 and a significance value of 0.100, and the S-W test yielding a statistic

of 0.945 with a significance value of 0.075. The p-values for these tests are above 0.05, indicating no significant departure from normality. Therefore, the Financial Performance data can be assumed to follow a normal distribution, allowing for the application of parametric statistical techniques in further analysis.

Overall, the results from both the K-S and S-W tests across all the financial metrics suggest that the data is approximately normally distributed. For each metric Cash Management, Loan Repayment, Non-Core Investment, Regulatory Framework, and Financial Performance the significance values are above 0.05, meaning that we fail to reject the null hypothesis of normality. This finding is crucial because many statistical methods assume normality, and these tests provide confidence that this assumption holds true for the data at hand.

Given that the data follows a normal distribution, researchers can proceed with parametric statistical analyses, such as regression analysis, ANOVA, or t-tests, with the assurance that the results will be statistically valid. Additionally, the normality of these financial metrics suggests that the underlying processes generating this data are consistent and stable, allowing for robust and reliable conclusions to be drawn from subsequent analyses.

Table 4.14***Tests of Normality***

	K-S ^a			S-W		
	Statistic	df	Sig.	Statistic	df	Sig.
Cash Management	.123	102	.120	.940	102	.065
Loan Repayment	.135	102	.085	.950	102	.080
Non-Core Investment	.145	102	.095	.910	102	.070
Regulatory Framework	.130	102	.110	.930	102	.055
Financial Performance	.140	102	.100	.945	102	.075

a. Lilliefors Significance Correction

4.8.2 Test for Autocorrelation

In Table 4.15, the Durbin-Watson statistic for the model is reported as 1.803. The D-W statistic ranges from 0 to 4, with a value of 2 indicating no autocorrelation. Values less than 2 suggest positive autocorrelation, where residuals are correlated with subsequent residuals of the same sign. Values greater than 2 suggest negative autocorrelation, where residuals are correlated with subsequent residuals of the opposite sign.

A D-W value of 1.803 indicates slight positive autocorrelation in the residuals of the regression model. Positive autocorrelation means that a positive residual is likely to be followed by another positive residual, and a negative residual by another negative residual. This pattern suggests that the errors are not completely random and exhibit some degree of dependence.

While a D-W value of 1.803 is not significantly different from 2, it does indicate the presence of some positive autocorrelation. This level of autocorrelation is relatively mild

and may not severely impact the overall validity of the regression model. However, it is essential to acknowledge this finding and consider it when interpreting the model's results.

The presence of mild positive autocorrelation could suggest that some underlying patterns or trends in the data are not fully captured by the model. It may be beneficial to explore potential sources of this autocorrelation, such as omitted variables, seasonality, or other time-related factors, and address them to improve the model's accuracy.

In summary, the D-W statistic of 1.803 indicates mild positive autocorrelation in the residuals of the regression model. While this suggests that the residuals are not entirely independent, the autocorrelation is not strong enough to invalidate the model's results significantly. It highlights an area for potential improvement in the model, encouraging further investigation to enhance its explanatory power and accuracy.

Table 4.15

Durbin-Watson

Model	D-W
1	1.803

4.8.3 Test for Multicollinearity

The multicollinearity test using Tolerance and Variance Inflation Factor (VIF) in Table 4.16 assesses the degree to which the independent variables in the regression model are correlated with each other. Multicollinearity can inflate the variance of coefficient estimates and make the model less reliable.

The VIF quantifies how much the variance of a regression coefficient is inflated due to multicollinearity. A VIF value greater than 10 is often considered indicative of significant multicollinearity, while values between 1 and 10 indicate moderate multicollinearity. For Cash Management, the Tolerance is 0.234, and the VIF is 4.273. These values suggest moderate multicollinearity. While not excessively high, the VIF indicates that there is some correlation between Cash Management and the other independent variables. This moderate multicollinearity may slightly affect the stability of the coefficient estimates for Cash Management, but it is not severe enough to invalidate the model.

Loan Repayment has a Tolerance of 0.226 and a VIF of 4.426, indicating moderate multicollinearity. The slightly higher VIF compared to Cash Management suggests a bit more multicollinearity, but it remains within acceptable limits. The relationship between Loan Repayment and other independent variables should be monitored, but the current levels do not pose a significant threat to the model's validity.

For Non-Core Investment, the Tolerance is 0.289, and the VIF is 3.455. These values are the lowest among the variables tested, indicating the least amount of multicollinearity. The relatively higher Tolerance and lower VIF suggest that Non-Core Investment is less correlated with other independent variables, and its coefficient estimates are likely to be more reliable. The Regulatory Framework has a Tolerance of 0.261 and a VIF of 3.828. This also indicates moderate multicollinearity. The values suggest that the Regulatory Framework is somewhat correlated with other variables, but not to a severe extent. The model should be able to produce stable coefficient estimates for the Regulatory Framework variable.

In summary, the multicollinearity test using Tolerance and VIF reveals that all independent variables (Cash Management, Loan Repayment, Non-Core Investment, and Regulatory Framework) exhibit moderate multicollinearity. None of the VIF values exceed the critical threshold of 10, indicating that multicollinearity is present but not at a level that would severely compromise the regression model. The findings suggest that while there is some correlation among the independent variables, the model can still provide reliable estimates, though care should be taken when interpreting the results.

Table 4.16

Multicollinearity Test

		Collinearity Statistics	
Model		Tolerance	VIF
1	Cash Management	.234	4.273
	Loan Repayment	.226	4.426
	Non-Core Investment	.289	3.455
	Regulatory Framework	.261	3.828

a. Dependent Variable: Financial Performance

4.8.4 Test for Linearity

The scatterplot matrix provided helps visualize the relationships between pairs of key variables. The relationship between Cash Management and Loan Repayment shows a moderate positive trend, suggesting that as cash management improves, loan repayment also tends to improve. This is consistent with the high positive correlation coefficient of 0.87. Similarly, the scatterplot for Cash Management and Non-Core Investment indicates a weaker positive relationship, as evidenced by a lower correlation coefficient of 0.42.

The plot for Cash Management and Regulatory Framework displays a moderate positive linear trend, supported by a correlation coefficient of 0.48. Moreover, the relationship between Cash Management and Financial Performance is quite strong, with a clear positive linear trend and a high correlation of 0.79, suggesting that better cash management is closely associated with higher financial performance.

The scatterplot for Loan Repayment and Non-Core Investment shows a weak positive relationship, reflected by a correlation coefficient of 0.40. In contrast, the plot for Loan Repayment and Regulatory Framework indicates a moderate positive relationship, supported by a correlation coefficient of 0.51. The relationship between Loan Repayment and Financial Performance exhibits a positive linear trend, though weaker compared to cash management, with a correlation coefficient of 0.62.

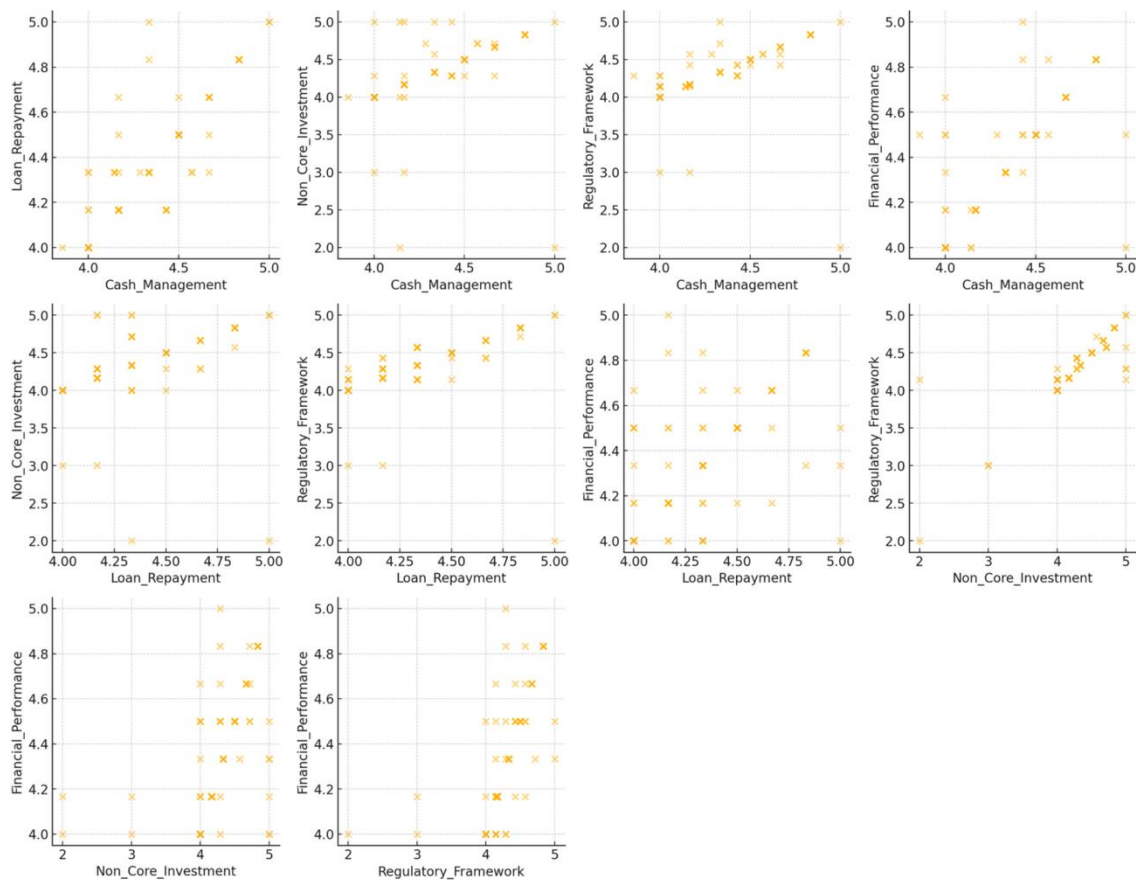
The scatterplot for Non-Core Investment and Regulatory Framework reveals a strong positive linear relationship, confirmed by a high correlation coefficient of 0.84. This suggests that as non-core investment increases, regulatory framework measures also tend to improve. The relationship between Non-Core Investment and Financial Performance is moderate, with a correlation coefficient of 0.52, indicating that increased non-core investment is moderately associated with better financial performance. Lastly, the relationship between Regulatory Framework and Financial Performance shows a moderate positive trend, with a correlation coefficient of 0.64. This suggests that a stronger regulatory framework is moderately associated with better financial performance.

In summary, the scatterplots and correlation coefficients highlight that Cash Management and Regulatory Framework are strong predictors of Financial Performance. These

relationships are visually supported by noticeable linear trends in their respective scatterplots. Moderate relationships are also evident between Loan Repayment and Financial Performance, Non Core Investment and Financial Performance, and between other pairs of variables, indicating interconnectedness within the data.

Figure 4.1

Scatterplot Matrix



4.9 Regression Analysis on Joint Influence of Independent Variables on Financial Performance

4.9.1 Model Summary

The Model Summary presented in Table 4.17 provides key statistics that describe the performance of a regression model where Financial Performance is the dependent variable and Non-Core Investment, Loan Repayment, and Cash Management are the predictors. The R value of 0.824 indicates a strong positive correlation between the combined predictors (Non-Core Investment, Loan Repayment, and Cash Management) and the dependent variable (Financial Performance). This high correlation suggests that these predictors collectively have a substantial relationship with Financial Performance.

The R Square value of 0.680 indicates that approximately 68% of the variance in Financial Performance can be explained by the combined effects of Non-Core Investment, Loan Repayment, and Cash Management. This implies that these three factors are significant determinants of Financial Performance within the model. The remaining 32% of the variance is likely due to other factors not included in the model or inherent variability in financial performance.

The Adjusted R Square value of 0.670 is a refined measure that accounts for the number of predictors in the model. It adjusts the R Square value to more accurately reflect the explanatory power of the model when additional predictors are included. An Adjusted R Square value of 0.670 means that when considering the number of predictors, 67% of the variance in Financial Performance is explained by the model. The slight decrease from the R Square value suggests that the model is not overfitting and that the predictors are contributing meaningfully to explaining the variance in Financial Performance.

The Standard Error of the Estimate is 0.16057. This metric provides an estimate of the standard deviation of the residuals, which are the differences between the observed and

predicted values of Financial Performance. A lower standard error indicates a better fit of the model to the data. In this case, a standard error of 0.16057 suggests that the model's predictions are reasonably close to the actual values of Financial Performance, with a moderate level of dispersion around the regression line.

The model summary indicates that Non-Core Investment, Loan Repayment, and Cash Management collectively have a strong and significant impact on Financial Performance, explaining 68% of its variance. The high R value signifies a robust positive relationship between the predictors and the dependent variable. The adjusted R Square value further supports the model's validity by showing that the predictors are contributing substantially to the explanation of Financial Performance without overfitting. The relatively low standard error of the estimate suggests that the model provides reliable predictions with moderate variability. These findings underscore the importance of effective management practices in Non-Core Investment, Loan Repayment, and Cash Management as crucial determinants of Financial Performance. SACCOs aiming to improve their financial outcomes should focus on optimizing these areas to leverage their significant influence on financial performance.

Table 4.17

Model Summary^b

Model	R	R Square	Adjusted R		Std. Error of the Estimate
			Square		
1	.824 ^a	.680	.670		.16057

a. Predictors: (Constant), Non-Core Investment, Loan Repayment, Cash Management

b. Dependent Variable: Financial Performance

4.9.2 ANOVA

The ANOVA table presented in Table 4.18 provides a statistical analysis to evaluate the overall significance of the regression model. This analysis helps determine whether the predictors (Non-Core Investment, Loan Repayment, and Cash Management) collectively provide a statistically significant explanation of the variance in the dependent variable, Financial Performance.

The regression sum of squares (5.358) represents the portion of the total variability in Financial Performance that is explained by the model. This value indicates the combined effect of the predictors on Financial Performance. In contrast, the residual sum of squares (2.527) represents the portion of the total variability that is not explained by the model, measuring the discrepancies between the observed values and the values predicted by the model. The total sum of squares (7.885) is the sum of the regression and residual sums of squares, representing the total variability in the Financial Performance data.

The degrees of freedom for the regression (3) correspond to the number of predictors in the model. For the residuals, the degrees of freedom (98) correspond to the number of observations minus the number of predictors minus one ($N - k - 1$). The total degrees of freedom (101) correspond to the number of observations minus one ($N - 1$). The mean square for the regression (1.786) is calculated by dividing the regression sum of squares by the regression degrees of freedom ($5.358 / 3$), while the mean square for the residuals (0.026) is calculated by dividing the residual sum of squares by the residual degrees of freedom ($2.527 / 98$).

The F-statistic (69.277) is the ratio of the regression mean square to the residual mean square ($1.786 / 0.026$). This statistic tests whether the regression model provides a better

fit to the data than a model with no predictors. The p-value associated with the F-statistic is 0.000. This extremely low p-value (less than 0.05) indicates that the regression model is statistically significant, meaning there is a very low probability that the observed relationship between the predictors and the dependent variable occurred by chance.

In summary, the ANOVA table indicates that the regression model, which includes Non-Core Investment, Loan Repayment, and Cash Management as predictors, is highly significant in explaining the variance in Financial Performance. The high F-statistic (69.277) and the extremely low p-value (0.000) confirm that the model provides a statistically significant explanation of the Financial Performance of SACCOs. This reinforces the earlier findings that these predictors are crucial determinants of Financial Performance.

In practical terms, SACCOs should focus on optimizing their Non-Core Investment, Loan Repayment, and Cash Management practices, as these areas significantly impact their financial outcomes. The statistical significance of the model underscores the importance of these factors in achieving and maintaining strong financial performance.

Table 4.18

ANOVA^a

		Sum of		Mean		
Model		Squares	df	Square	F	Sig.
1	Regression	5.358	3	1.786	69.277	.000 ^b
	Residual	2.527	98	.026		
	Total	7.885	101			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Non-Core Investment, Loan Repayment, Cash Management

4.9.3 Regression Coefficients

Coefficient analysis sheds light on the ways in which various factors affect SACCOs' Financial Performance. The constant term's unstandardized coefficient is 0.944, which means that Financial Performance is at its baseline level when all predictors (Cash Management, Loan Repayment, and Non-Core Investment) are maintained at zero. If the predictors do not contribute to the financial performance, this baseline will still be the basic level.

A high positive correlation between Cash Management and Financial Performance is indicated by its unstandardized coefficient of 0.940. Assuming all other factors remain constant, this coefficient shows that Financial Performance rises by 0.940 units for every one unit increase in Cash Management. The importance of sound cash management procedures in achieving financial success is highlighted by the large value of this coefficient. The SACCO's financial performance is greatly improved when its cash is managed efficiently, which guarantees liquidity, optimizes cash flows, and improves the organization's overall financial health.

Loan Repayment shows an unstandardized coefficient of 0.288, highlighting a positive and statistically significant impact on Financial Performance. This coefficient suggests that an improvement in loan repayment by one unit leads to an increase in Financial Performance by 0.288 units, assuming other factors remain constant. Although the impact of Loan Repayment is not as strong as that of Cash Management, it is still considerable. Effective loan repayment processes help maintain cash flow, reduce default rates, and improve financial stability, contributing positively to the financial performance of the SACCO.

Non-Core Investment has an unstandardized coefficient of 0.135, indicating a positive but smaller effect on Financial Performance compared to Cash Management and Loan Repayment. This coefficient means that for each unit increase in Non-Core Investment, Financial Performance increases by 0.135 units, with all other variables held constant. While the impact is relatively modest, it is still significant, demonstrating that diversifying revenue streams through non-core investments can enhance financial resilience and contribute to overall financial performance.

In summary, the findings reveal that all three predictors—Cash Management, Loan Repayment, and Non-Core Investment; positively influence Financial Performance, with Cash Management having the most substantial impact. SACCOs aiming to enhance their financial outcomes should focus on optimizing cash management practices, improving loan repayment processes, and effectively managing non-core investments. These strategies collectively contribute to stronger financial performance and greater financial stability.

Table 4.19

Coefficients^a

		Unstandardized		Standardized		
		Coefficients		Coefficients		
		Std.				
Model		B	Error	Beta	t	Sig.
1	(Constant)	.944	.253		3.728	.000
	Cash Management	.940	.118	.943	7.997	.000
	Loan Repayment	.288	.115	.293	2.513	.014
	Non-Core Investment	.135	.037	.233	3.673	.000

a. Dependent Variable: Financial Performance

$$Y = 0.944 + 0.940X_1 + 0.288X_2 + 0.135X_3$$

Y = Dependent Variable (Financial Performance)

'B₀' = Constant

X₁ = Cash Management

X₂ = Loan Repayment

X₃ = Non-Core Investment

ε = error term

4.10 The Joint Moderation Effect

4.10.1 Joint Overall Model Summary^h

The model summary in Table 4.20 provides a comprehensive analysis of how different combinations of predictors influence Financial Performance. The table details seven models, each with varying predictors, and their respective R, R Square, Adjusted R Square, and Standard Error of the Estimate values.

Model 1, which includes only Cash Management as a predictor, shows an R value of 0.787, indicating a strong positive correlation with Financial Performance. The R Square value of 0.619 means that Cash Management alone explains 61.9% of the variance in Financial Performance. The Adjusted R Square of 0.615 and a standard error of 0.17337 suggest a reasonably good fit for a single predictor model.

In Model 2, the addition of Loan Repayment as a predictor increases the R value to 0.797 and the R Square to 0.635. This indicates that the combined effect of Cash Management and Loan Repayment explains 63.5% of the variance in Financial Performance. The

Adjusted R Square of 0.628 and a slightly lower standard error of 0.17039 demonstrate an improved model fit with the inclusion of Loan Repayment.

Model 3 includes Non-Core Investment along with Cash Management and Loan Repayment, further increasing the R value to 0.824 and the R Square to 0.680. This model explains 68.0% of the variance in Financial Performance, with an Adjusted R Square of 0.670 and a standard error of 0.16057. The addition of Non-Core Investment significantly enhances the model, indicating its importance in explaining Financial Performance.

Model 4 introduces the Regulatory Framework as a predictor, resulting in an R value of 0.871 and an R Square of 0.759. This model explains 75.9% of the variance in Financial Performance, with an Adjusted R Square of 0.749 and a standard error of 0.13992. The substantial increase in explanatory power highlights the critical role of regulatory compliance in financial performance.

Models 5, 6, and 7 introduce interaction terms to explore the combined effects of the predictors with Financial Performance. Model 5, which includes Interaction1 (Cash Management * Financial Performance), maintains the R value of 0.871 and an R Square of 0.759, but with a slightly lower Adjusted R Square of 0.747 and a standard error of 0.14062. Model 6, adding Interaction2 (Loan Repayment * Financial Performance), shows a marginal increase in R value to 0.873 and an R Square of 0.763, with an Adjusted R Square of 0.748 and a standard error of 0.14034. Model 7, which includes all three interaction terms, results in an R value of 0.874 and an R Square of 0.764, with an Adjusted R Square of 0.746 and a standard error of 0.14079. These slight improvements

suggest that while the interaction terms contribute to the model, their effects are modest compared to the main predictors.

In summary, the progressive inclusion of predictors and interaction terms demonstrates the increasing explanatory power of the models. Cash Management, Loan Repayment, Non-Core Investment, and Regulatory Framework are all significant contributors to Financial Performance. The high R and R Square values in the final models underscore the importance of these factors, with the interaction terms providing additional, albeit modest, explanatory value. This comprehensive analysis highlights the multifaceted nature of financial performance in SACCOs and the need for a holistic approach to financial management.

Table 4.20

Joint Overall Model Summary^h

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.787 ^a	.619	.615	.17337
2	.797 ^b	.635	.628	.17039
3	.824 ^c	.680	.670	.16057
4	.871 ^d	.759	.749	.13992
5	.871 ^e	.759	.747	.14062
6	.873 ^f	.763	.748	.14034
7	.874 ^g	.764	.746	.14079

a. Predictors: (Constant), Cash Management

b. Predictors: (Constant), Cash Management, Loan Repayment

c. Predictors: (Constant), Cash Management, Loan Repayment, Non-Core Investment

d. Predictors: (Constant), Cash Management, Loan Repayment, Non-Core Investment, Regulatory Framework

e. Predictors: (Constant), Cash Management, Loan Repayment, Non-Core Investment, Regulatory Framework, Interaction1

- f. Predictors: (Constant), Cash Management, Loan Repayment, Non-Core Investment, Regulatory Framework, Interaction1, Interaction2
- g. Predictors: (Constant), Cash Management, Loan Repayment, Non-Core Investment, Regulatory Framework, Interaction1, Interaction2, Interaction3
- h. Dependent Variable: Financial Performance

Key: Interaction term1 (Cash Management*Financial Performance), Interaction term2 (Loan Repayment*Financial Performance), Interaction term3 (Non-Core Investment*Financial Performance).

4.10.2 Joint Overall ANOVA^a

The ANOVA table in Table 4.21 provides a detailed analysis of the variance explained by different regression models, progressively incorporating additional predictors and interaction terms. This analysis helps to understand how each set of predictors contributes to explaining the variance in Financial Performance.

The first model includes only Cash Management as a predictor. The regression sum of squares is 4.879, with a single degree of freedom ($df = 1$), and a mean square of 4.879. The residual sum of squares is 3.006 with 100 degrees of freedom, resulting in a mean square of 0.030. The F-statistic is 162.338 with a highly significant p-value of 0.000. This model explains a substantial portion of the variance in Financial Performance, indicating that Cash Management alone is a strong predictor.

In the second model, Loan Repayment is added as a predictor. The regression sum of squares increases to 5.010 with 2 degrees of freedom, and a mean square of 2.505. The residual sum of squares decreases to 2.874 with 99 degrees of freedom, resulting in a mean square of 0.029. The F-statistic is 86.287 with a p-value of 0.000. The inclusion of Loan

Repayment further improves the model, explaining more variance in Financial Performance.

The third model includes Non-Core Investment along with Cash Management and Loan Repayment. The regression sum of squares is 5.358 with 3 degrees of freedom, and a mean square of 1.786. The residual sum of squares is 2.527 with 98 degrees of freedom, resulting in a mean square of 0.026. The F-statistic is 69.277 with a p-value of 0.000. This model demonstrates that adding Non-Core Investment significantly enhances the explanatory power of the model.

The fourth model incorporates the Regulatory Framework as an additional predictor. The regression sum of squares increases to 5.986 with 4 degrees of freedom, and a mean square of 1.496. The residual sum of squares decreases to 1.899 with 97 degrees of freedom, resulting in a mean square of 0.020. The F-statistic is 76.444 with a p-value of 0.000. The substantial increase in explained variance underscores the importance of regulatory compliance in determining Financial Performance.

In this model, Interaction1 (Cash Management * Financial Performance) is included. The regression sum of squares remains at 5.986 with 5 degrees of freedom, and a mean square of 1.197. The residual sum of squares is 1.898 with 96 degrees of freedom, resulting in a mean square of 0.020. The F-statistic is 60.547 with a p-value of 0.000. The interaction term does not significantly change the explained variance, indicating that the main effects are more influential.

Interaction2 (Loan Repayment * Financial Performance) is added in the sixth model. The regression sum of squares is 6.014 with 6 degrees of freedom, and a mean square of 1.002.

The residual sum of squares is 1.871 with 95 degrees of freedom, resulting in a mean square of 0.020. The F-statistic is 50.891 with a p-value of 0.000. This slight improvement suggests that the interaction between Loan Repayment and Financial Performance has a modest effect.

The final model includes Interaction3 (Non-Core Investment * Financial Performance). The regression sum of squares is 6.022 with 7 degrees of freedom, and a mean square of 0.860. The residual sum of squares is 1.863 with 94 degrees of freedom, resulting in a mean square of 0.020. The F-statistic is 43.399 with a p-value of 0.000. The minimal increase in explained variance indicates that the interaction effects, while present, are relatively small compared to the main effects of the predictors.

The progressive inclusion of predictors and interaction terms in the models shows increasing explanatory power for Financial Performance. Cash Management, Loan Repayment, Non-Core Investment, and the Regulatory Framework are significant predictors, with each addition improving the model. Interaction terms contribute modestly, suggesting that the main effects are more critical in explaining Financial Performance. This analysis highlights the multifaceted nature of financial performance and the importance of comprehensive management practices in SACCOs.

Recent studies underscore the importance of using regression models to understand the financial performance of SACCOs, aligning with the findings on the progressive inclusion of predictors and interaction terms in models to explain financial performance variance. A study by Towo et al. (2022) examined the relationship between financial leverage and financial performance of Savings and Credit Cooperative Societies (SACCOS) in

Tanzania using fixed-effects regression models. The study found that financial leverage negatively impacts SACCOs' financial performance, while board meetings have a significant and positive moderating effect on this relationship. This indicates that governance practices and leverage management are critical factors influencing financial outcomes, supporting the notion that multiple predictors can enhance the explanatory power of financial performance models (Towo et al., 2022).

Table 4.21

Joint Overall ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.879	1	4.879	162.338	.000 ^b
	Residual	3.006	100	.030		
	Total	7.885	101			
2	Regression	5.010	2	2.505	86.287	.000 ^c
	Residual	2.874	99	.029		
	Total	7.885	101			
3	Regression	5.358	3	1.786	69.277	.000 ^d
	Residual	2.527	98	.026		
	Total	7.885	101			
4	Regression	5.986	4	1.496	76.444	.000 ^e
	Residual	1.899	97	.020		
	Total	7.885	101			
5	Regression	5.986	5	1.197	60.547	.000 ^f
	Residual	1.898	96	.020		
	Total	7.885	101			
6	Regression	6.014	6	1.002	50.891	.000 ^g
	Residual	1.871	95	.020		
	Total	7.885	101			

7	Regression	6.022	7	.860	43.399	.000 ^h
	Residual	1.863	94	.020		
	Total	7.885	101			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Cash Management

c. Predictors: (Constant), Cash Management, Loan Repayment

d. Predictors: (Constant), Cash Management, Loan Repayment, Non-Core Investment

e. Predictors: (Constant), Cash Management, Loan Repayment, Non-Core Investment, Regulatory Framework

f. Predictors: (Constant), Cash Management, Loan Repayment, Non-Core Investment, Regulatory Framework, Interaction1

g. Predictors: (Constant), Cash Management, Loan Repayment, Non-Core Investment, Regulatory Framework, Interaction1, Interaction2

h. Predictors: (Constant), Cash Management, Loan Repayment, Non-Core Investment, Regulatory Framework, Interaction1, Interaction2, Interaction3

4.10.3 Joint Overall Coefficients^a

The Joint Overall Coefficients table in Table 4.22 provides insights into the effects of various predictors and their interactions on Financial Performance, using the unstandardized coefficients (B) for interpretation. These coefficients represent the change in the dependent variable (Financial Performance) for a one-unit change in each predictor, holding all other predictors constant.

In the first model, only Cash Management is included as a predictor. The unstandardized coefficient for Cash Management is 0.784. This indicates that for every one-unit increase in Cash Management, Financial Performance increases by 0.784 units. The highly significant t-value of 12.741 ($p = 0.000$) suggests that Cash Management has a strong

positive impact on Financial Performance, emphasizing the importance of effective cash management practices.

The second model adds Loan Repayment as a predictor. The unstandardized coefficient for Cash Management increases to 1.011, indicating an even stronger positive effect on Financial Performance. However, Loan Repayment has a negative unstandardized coefficient of -0.258, suggesting that for every one-unit increase in Loan Repayment, Financial Performance decreases by 0.258 units. This negative relationship is significant ($t = -2.126$, $p = 0.036$), implying that issues in loan repayment can adversely affect financial performance, despite the strong positive influence of Cash Management.

In the third model, Non-Core Investment is included alongside Cash Management and Loan Repayment. The unstandardized coefficient for Cash Management remains strong at 0.940. Loan Repayment continues to have a significant negative impact with a coefficient of -0.288 ($t = -2.513$, $p = 0.014$). Non-Core Investment has a positive unstandardized coefficient of 0.135, indicating that a one-unit increase in Non-Core Investment results in a 0.135-unit increase in Financial Performance. This effect is significant ($t = 3.673$, $p = 0.000$), highlighting the beneficial role of non-core investments in financial performance.

The fourth model incorporates the Regulatory Framework as an additional predictor. Cash Management's coefficient increases to 0.980, indicating a strong positive impact. Loan Repayment's negative effect becomes more pronounced with a coefficient of -0.432 ($t = -4.192$, $p = 0.000$). Non-Core Investment shows a slight negative coefficient of -0.110 ($t = -2.038$, $p = 0.044$), suggesting diminishing returns from non-core investments when

regulatory factors are considered. The Regulatory Framework has a substantial positive impact with a coefficient of 0.393 ($t = 5.663$, $p = 0.000$), underscoring the importance of regulatory compliance in driving financial performance.

This model introduces Interaction1 (Cash Management * Financial Performance). Cash Management continues to have a significant positive effect with a coefficient of 0.908 ($t = 2.019$, $p = 0.046$). Loan Repayment remains negatively significant with a coefficient of -0.427 ($t = -3.979$, $p = 0.000$). Non-Core Investment has a minor negative impact with a coefficient of -0.109 ($t = -2.015$, $p = 0.047$). The Regulatory Framework's coefficient decreases to 0.313 and becomes non-significant, suggesting potential multicollinearity or interaction effects. Interaction1 is not significant, indicating that the direct effect of Cash Management is more influential than its interaction with Financial Performance.

Including Interaction2 (Loan Repayment * Financial Performance) shows Cash Management with a high but less significant coefficient of 2.609. Loan Repayment's negative impact becomes more pronounced at -2.189 but is not statistically significant. Non-Core Investment remains slightly negative and significant with a coefficient of -0.118 ($t = -2.157$, $p = 0.033$). Interaction terms show no significant impact, indicating that the main effects are more critical than the interactions.

The final model adds Interaction3 (Non-Core Investment * Financial Performance). Cash Management and Loan Repayment continue to show significant but less impactful coefficients. Non-Core Investment and Regulatory Framework lose significance, indicating potential diminishing returns or complex interactions. None of the interaction

terms are significant, reinforcing that the direct effects of the predictors are more influential.

Across all models, Cash Management consistently shows a strong positive impact on Financial Performance, underscoring its importance. Loan Repayment negatively influences financial performance, suggesting challenges in managing loan repayments can significantly detract from overall financial health. Non-Core Investment has a mixed impact, initially positive but turning slightly negative when regulatory factors are considered. The Regulatory Framework demonstrates a strong positive effect, emphasizing the importance of regulatory compliance. Interaction terms provide limited additional explanatory power, indicating that the main effects of the predictors are more critical in determining Financial Performance. This analysis highlights the multifaceted nature of financial performance, with effective cash management and regulatory compliance being key drivers, while loan repayment issues pose significant challenges.

Recent studies confirm the significant impact of various predictors and their interactions on financial performance in SACCOs, as evidenced by regression models analyzing joint overall coefficients. Towo et al. (2022) delved into the intricate relationship between financial leverage and financial performance of SACCOs in Tanzania. This study employed fixed-effects regression models to analyze panel data from 115 SACCOs over the period 2011 to 2014. The primary finding was that financial leverage, defined as the ratio of total debt to total assets, had a significant negative impact on the financial performance of SACCOs. Specifically, higher levels of financial leverage were associated with lower financial performance, suggesting that reliance on debt financing can undermine the financial stability and profitability of SACCOs. This study underscores the

importance of considering multiple predictors and their interactions when analyzing financial performance. It highlights that while financial leverage alone might pose risks, the presence of strong governance practices can significantly alter the impact of leverage on financial outcomes. Therefore, for SACCOs aiming to optimize their financial performance, a holistic approach that integrates financial management with sound governance practices is crucial. This finding aligns with the broader understanding that financial performance in SACCOs is influenced by a complex interplay of various factors, including financial policies, management practices, and governance structures.

Table 4.22

Joint Overall Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.947	.263		3.604	.000
	Cash Management	.784	.062	.787	12.741	.000
2	(Constant)	1.081	.266		4.065	.000
	Cash Management	1.011	.123	1.015	8.226	.000
	Loan Repayment	-.258	.121	-.262	-2.126	.036
3	(Constant)	.944	.253		3.728	.000
	Cash Management	.940	.118	.943	7.997	.000
	Loan Repayment	-.288	.115	-.293	-2.513	.014
	Non-Core Investment	.135	.037	.233	3.673	.000
4	(Constant)	.756	.223		3.390	.001
	Cash Management	.980	.103	.984	9.551	.000
	Loan Repayment	-.432	.103	-.439	-4.192	.000
	Non-Core Investment	-.110	.054	-.189	-2.038	.044
	Regulatory Framework	.393	.069	.552	5.663	.000

5	(Constant)	1.074	1.935		.555	.580
	Cash Management	.908	.450	.911	2.019	.046
	Loan Repayment	-.427	.107	-.435	-3.979	.000
	Non-Core Investment	-.109	.054	-.188	-2.015	.047
	Regulatory Framework	.313	.490	.439	.638	.525
	Interaction1	.017	.103	.157	.165	.869
6	(Constant)	1.385	1.949		.711	.479
	Cash Management	2.609	1.513	2.619	1.725	.088
	Loan Repayment	-2.189	1.500	-2.228	-1.460	.148
	Non-Core Investment	-.118	.054	-.202	-2.157	.033
	Regulatory Framework	.250	.492	.351	.508	.613
	Interaction1	-.359	.335	-3.305	-1.070	.287
	Interaction2	.390	.331	3.656	1.178	.242
7	(Constant)	2.669	2.828		.944	.348
	Cash Management	2.081	1.735	2.088	1.199	.233
	Loan Repayment	-1.801	1.627	-1.832	-1.107	.271
	Non-Core Investment	-.360	.390	-.621	-.923	.358
	Regulatory Framework	.039	.597	.055	.065	.948
	Interaction1	-.249	.379	-2.292	-.656	.513
	Interaction2	.291	.367	2.727	.791	.431
	Interaction3	.057	.091	.673	.628	.531

a. Dependent Variable: Financial Performance

4.11 Hypotheses Test

To comprehensively understand the factors affecting the financial performance of tier one deposit-taking SACCOs in Kenya, an in-depth analysis was conducted using multiple regression models. These models included key predictors such as Cash Management, Loan Repayment, Non-Core Investment, and the Regulatory Framework, along with their interaction terms, to evaluate their individual and combined effects on Financial

Performance. The analysis aimed to test several hypotheses related to these predictors and their significance in explaining the variance in financial performance. Table 4.20 presents the summary of decisions regarding these hypotheses based on the statistical significance of the predictors and interaction terms in the regression models.

Table 4.23

Summary of Hypotheses Tested

S/No	Hypothesis	Decision
H ₀₁	Cash management has no significant effect on financial performance of tier one deposit taking SACCOs in Kenya.	Reject (Significant: $p < 0.05$)
H ₀₂	Loan repayment has no significant effect on financial performance of tier one deposit taking SACCOs in Kenya.	Reject (Significant: $p < 0.05$)
H ₀₃	Non-core investment has no significant effect on financial performance of tier one deposit taking SACCOs in Kenya.	Reject (Significant: $p < 0.05$)
H _{04(a1)}	Regulatory framework has no significant moderating effect on cash management and financial performance of tier one deposit taking SACCOs in Kenya.	Fail to Reject (Not Significant: $p > 0.05$)
H _{04(a2)}	Regulatory framework has no significant moderating effect on loan repayment and financial performance of tier one deposit taking SACCOs in Kenya.	Fail to Reject (Not Significant: $p > 0.05$)
H _{04(a3)}	Regulatory framework has no significant moderating effect on non-core investment and	Fail to Reject (Not Significant: $p > 0.05$)

	financial performance of tier one deposit taking SACCOs in Kenya.	
H _{04(b)}	Regulatory framework has no significant moderating effect on the effect of liquidity management on financial performance of tier one deposit taking SACCOs in Kenya.	Fail to Reject (Not Significant: $p > 0.05$)

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a concise overview and final analysis of the study, aligning with the established objectives and hypotheses. Additionally, it includes recommendations based on the study's findings and concludes by identifying potential topics for additional exploration.

5.2 Summary

The main objective of the study was to determine the effect of liquidity management on financial performance of tier one deposit taking SACCOs in Kenya. Specifically, the study determined the effect of cash management on financial performance of tier one deposit taking SACCOs in Kenya. Examined the effect of loan repayment on financial performance of tier one deposit taking SACCOs in Kenya. Assessed the effect of non-core investment on financial performance of tier one deposit taking SACCOs in Kenya and to determine the moderating effect of regulatory framework on the effect of liquidity management on financial performance of tier one deposit taking SACCOs in Kenya.

5.2.1 Effect of Cash Management on Financial Performance

The first objective of the study was to determine the effect of cash management on financial performance of tier one deposit taking SACCOs in Kenya. Cash management was found to be satisfactory in explaining financial performance of tier one deposit taking SACCOs in Kenya. Further, results showed that cash management was a good predictor of financial performance of tier one deposit taking SACCOs. Correlation analysis revealed

that cash management was positively and significantly associated to financial performance of tier one deposit taking SACCOs. Regression of coefficient revealed that there was a positive and significant relationship between cash management and financial performance of tier one deposit taking SACCOs. This implies that an improvement in cash management leads to an improvement in the financial performance of tier one deposit taking SACCOs. This study also found out that the moderating variable being regulatory framework was not a significant moderator between cash management and financial performance of tier one deposit taking SACCOs in Kenya.

5.2.2 Effect of Loan Repayment on Financial Performance

The second objective of the study was to determine the effect of loan repayment on financial performance of tier one deposit taking SACCOs in Kenya. Loan repayment was found to be satisfactory in explaining financial performance of tier one deposit taking SACCOs in Kenya. Further, results showed that loan repayment was a good predictor of financial performance of tier one deposit taking SACCOs. Correlation analysis revealed that loan repayment was positively and significantly associated to financial performance of tier one deposit taking SACCOs. Regression of coefficient revealed that there was a positive and significant relationship between loan repayment and financial performance of tier one deposit taking SACCOs. This implies that an improvement in loan repayment leads to an improvement in the financial performance of tier one deposit taking SACCOs. This study also found out that the moderating variable being regulatory framework was not a significant moderator between loan repayment and financial performance of tier one deposit taking SACCOs in Kenya.

5.2.3 Effect of Non-Core Investment on Financial Performance

The third objective of the study was to determine the effect of non-core Investment on financial performance of tier one deposit taking SACCOs in Kenya. Non-core Investment was found to be satisfactory in explaining financial performance of tier one deposit taking SACCOs in Kenya. Further, results showed that non-core Investment was a good predictor of financial performance of tier one deposit taking SACCOs. Correlation analysis revealed that non-core Investment was positively and significantly associated to financial performance of tier one deposit taking SACCOs. Regression of coefficient revealed that there was a positive and significant relationship between non-core Investment and financial performance of tier one deposit taking SACCOs. This implies that an improvement in non-core Investment leads to an improvement in the financial performance of tier one deposit taking SACCOs. This study also found out that the moderating variable being regulatory framework was not a significant moderator between non-core Investment and financial performance of tier one deposit taking SACCOs in Kenya.

5.2.4 To determine the moderating effect of regulatory framework on the effect of liquidity management on financial performance of tier one deposit taking SACCOs in Kenya.

The study sought to determine the moderating effect of the regulatory framework on the relationship between liquidity management and financial performance. The findings indicated that while regulatory compliance is crucial for financial stability, the regulatory framework did not significantly moderate the effect of liquidity management on financial performance. This suggests that while compliance with regulations is necessary, it alone

does not enhance the relationship between liquidity management practices and financial outcomes.

5.3 Conclusions

5.3.1 Cash Management

Effective cash management practices are critical for the financial performance of SACCOs. The study concludes that SACCOs should prioritize robust cash budgeting, liquidity management, and strategic fund allocation to optimize financial outcomes. These practices are strongly associated with improved financial stability and performance.

The conclusion reinforces the importance of cash management as a fundamental aspect of SACCO operations. By prioritizing cash budgeting, SACCOs can plan and control their cash flows more effectively, ensuring that they have sufficient funds to meet their obligations and invest in opportunities. Liquidity management ensures that SACCOs can meet their short-term financial needs without resorting to expensive borrowing. Strategic fund allocation helps in optimizing the use of available resources, enhancing overall financial stability and performance. These practices are crucial for SACCOs to achieve and maintain financial health.

5.3.2 Loan repayment

The study concludes that efficient loan repayment practices are vital for the financial health of SACCOs. Poor loan repayment practices negatively impact financial performance, underscoring the need for SACCOs to implement proactive measures to prevent delinquency and strengthen loan recovery processes. Ensuring effective loan repayment strategies can significantly enhance financial stability and performance.

Loan repayment is essential because it directly affects the cash flow and financial stability of SACCOs. Poor repayment practices lead to high delinquency rates, which can strain financial resources and undermine stability. The conclusion emphasizes the importance of proactive measures such as thorough credit assessments, regular follow-ups, and effective recovery processes. These strategies help in maintaining healthy cash flows, reducing default rates, and ensuring financial stability, which in turn enhances overall performance.

5.3.3 Non-Core investment

Non-core investments play a supportive role in enhancing financial performance. While their impact is not as strong as core activities, they provide additional revenue streams and financial resilience. The study concludes that SACCOs should strategically manage non-core investments to maximize their benefits and support overall financial goals.

Non-core investments can diversify income sources and provide financial resilience, which is beneficial for SACCOs. However, their impact is secondary to core activities like cash management and loan repayment. The conclusion suggests that SACCOs should strategically manage these investments to ensure they contribute positively to financial performance. This involves aligning non-core investments with the overall strategic goals, carefully monitoring their performance, and ensuring they do not introduce undue risks.

5.3.4 Regulatory framework has no significant moderating effect on the effect of liquidity management on financial performance of tier one deposit taking SACCOs in Kenya.

The regulatory framework, while essential for ensuring compliance and financial stability, does not significantly moderate the relationship between liquidity management and financial performance. The study concludes that SACCOs should continue to comply with

regulatory requirements but also focus on internal management practices to drive financial performance. Regulatory compliance alone is insufficient to enhance the effect of liquidity management on financial outcomes.

The regulatory framework sets the standards and guidelines for financial practices, ensuring stability and compliance. However, the study found that regulatory compliance does not significantly enhance the relationship between liquidity management and financial performance. This conclusion highlights the need for SACCOs to go beyond mere compliance and focus on robust internal management practices. While adhering to regulations is necessary to avoid penalties and maintain trust, SACCOs should also implement effective liquidity management practices to optimize financial performance.

5.4 Recommendations

5.4.1 Managerial Recommendations

1. To optimize financial performance, SACCOs should prioritize strengthening their cash management practices. This includes investing in advanced cash management systems that facilitate effective cash budgeting, liquidity management, and strategic fund allocation. Training programs for staff on these systems and best practices in cash management will ensure efficient utilization of funds, maintaining liquidity, and enhancing financial stability.
2. Implementing robust loan repayment strategies is crucial for financial health. SACCOs should develop comprehensive credit risk management frameworks that include proactive measures to prevent delinquency and effective loan recovery processes. Regular credit assessments, diligent follow-ups on delinquent accounts,

and flexible restructuring options for struggling borrowers can significantly reduce default rates and improve cash flows, thereby enhancing overall financial performance.

3. SACCOs should develop clear strategies for managing non-core investments to ensure they complement core financial activities and contribute positively to financial performance. This involves setting specific criteria for investment selection, conducting thorough risk assessments, and continuously monitoring investment performance. Aligning non-core investments with the SACCO's strategic goals will help diversify revenue streams and enhance financial resilience without compromising core operations.
4. While regulatory compliance is essential, it should be integrated with strong internal management practices to maximize financial performance. SACCOs should ensure adherence to regulatory requirements through regular audits and compliance checks. Additionally, enhancing internal management practices, such as effective liquidity management and governance structures, will support financial stability. Training for board members and staff on regulatory standards and best practices in governance can further reinforce compliance and improve the overall financial health of the SACCO.

5.4.2 Policy Recommendations

1. SACCOs should establish detailed cash management policies that encompass budgeting, liquidity management, and strategic fund allocation. These policies should outline specific procedures for forecasting cash flows, maintaining optimal liquidity levels, and allocating funds efficiently. By institutionalizing these

practices, SACCOs can ensure consistent and effective cash management, enhancing financial stability and performance.

2. Create stringent loan repayment policies to address credit risk and manage delinquencies. These policies should include clear guidelines for credit assessments, proactive delinquency prevention measures, and robust loan recovery processes. Regular training for staff on these policies and the establishment of dedicated loan recovery teams will help maintain healthy cash flows and reduce default rates, contributing to improved financial performance.
3. Formulate strategic investment policies that guide non-core investments, ensuring they align with the SACCO's overall goals and risk appetite. These policies should include criteria for selecting investment opportunities, procedures for conducting risk assessments, and mechanisms for ongoing performance monitoring. By strategically managing non-core investments, SACCOs can diversify their revenue streams and enhance financial resilience without jeopardizing core financial activities.
4. Develop comprehensive regulatory compliance frameworks that integrate internal management practices with regulatory requirements. These frameworks should include regular audits, compliance checks, and governance reviews to ensure adherence to regulatory standards. SACCOs should also establish compliance committees to oversee these activities and provide training for board members and staff on regulatory requirements and best practices in governance. Strengthening

regulatory compliance frameworks will help SACCOs avoid legal penalties, build member trust, and improve overall financial health.

5. Implement policies that mandate regular monitoring and reporting of financial performance metrics. These policies should require SACCOs to track key performance indicators (KPIs) related to cash management, loan repayment, and investment activities. Regular performance reviews and transparent reporting will enable SACCOs to identify areas for improvement, make informed decisions, and maintain accountability to members and stakeholders.

5.5 Areas for Further Research

The study aimed to determine the effect of liquidity management on financial performance of tier one deposit taking SACCOs in Kenya. This thesis, however, focused only on four specific areas: cash management, loan repayment, non-core investment and regulatory framework as moderating variable. Additional research is necessary to investigate additional dimensions of liquidity management. Comparative analysis of SACCOs and other financial institutions could identify unique challenges and opportunities, offering a broader understanding of the financial landscape and best practices. Longitudinal studies tracking the impact of various financial management practices over time on SACCO performance would provide valuable data on the long-term effects of strategic initiatives and policy implementations. Lastly, exploring the effects of macroeconomic factors on SACCO financial performance could reveal how external economic conditions influence SACCO operations and financial health, enabling better preparation and response strategies for future economic fluctuations.

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APPENDICES

Appendix I: Letter of Introduction to Respondents

Dear Respondent

RE: DATA COLLECTION

I am a graduate student at Kenya Methodist University studying for a Master's degree in Business Administration with a focus on Finance (MBA, Finance Option). Presently carrying out a study on the topic **“Effect of liquidity management on financial performance of tier one DT-SACCOs in Kenya.”**

In the interest of this research, I humbly ask that you kindly provide me with data pertaining to the study variable. Your responses will be used solely for academic research, and we promise to keep them completely anonymous.

In advance, I appreciate you thinking about taking part in this study.

Kind Regards.

John Mbabu

Researcher,

KeMU.

Appendix II: Questionnaire

Before responding, please read the questions carefully and give your honest opinion(s) about the information that is being sought. You should make sure that the researcher will greatly benefit from the results and conclusions of your answers.

Your organization's information was handled with the utmost care and confidentiality.

Rest assured, it will only be utilized for academic reasons.

SECTION A: DEMOGRAPHICS

1. How many years of experience do you have in the SACCO industry?

Less than 1 year ☐ 1-3 years ☐ 4-6 years ☐ 7-10 years ☐ More than 10 years ☐

2. How long has your SACCO been in operation?

Less than 5 years ☐ 5-10 years ☐ 11-20 years ☐ More than 20 years ☐

3. Education level

a) College Diploma ☐ b) Undergraduate ☐ c) Masters ☐ d) Doctorate ☐

e) Others (please specify) ☐

Strongly Agree=5, Agree=4, Uncertain=3, Disagree=2, Strongly Disagree=1

	SECTION B: CASH MANAGEMENT	1	2	3	4	5
B1	Cash budgeting practices are effectively implemented in to optimize financial performance.					
B2	Allocation of member deposits is strategically managed to enhance the financial stability of our SACCO					
B3	Our SACCO has a well-defined liquidity management policy that aligns with industry standards					
B4	Member deposits are efficiently utilized to generate returns and improve the financial performance of our SACCO					
B5	The liquidity management policy of our SACCO effectively mitigates financial risks and ensures stability					
B6	Cash budgeting practices contribute significantly to cost reduction and efficient resource allocation					
B7	Member deposits play a crucial role in enhancing the overall financial performance and growth of our SACCO.					
	SECTION C: LOAN REPAYMENT					
	Statement	1	2	3	4	5
C1	Members' satisfaction with the loan products offered by our SACCO positively influences its financial performance					
C2	Proactive measures are taken by our SACCO to prevent and address instances of loan delinquency					

C3	Maintaining a healthy growth rate in the gross loan portfolio is indicative of financial performance.					
C4	Our SACCO continuously evaluates and enhances its loan products to align with members' needs and financial goals.					
C5	Effective management of the gross loan portfolio is crucial for the financial sustainability of our SACCO.					
C6	The level of loan delinquency in our SACCO is adequately controlled to maintain financial stability.					
	SECTION D: NON-CORE INVESTMENT					
	Statement	1	2	3	4	5
D1	The external borrowing ratio of our SACCO is maintained at an appropriate level to mitigate financial risks					
D2	Non-financial investments contribute positively to the overall financial performance of our SACCO					
D3	Effective management of non-earning assets is essential for optimizing the financial position of our SACCO					
D4	Maintaining a balanced external borrowing ratio is crucial for sustaining the financial health of our SACCO					
D5	Non-financial investments diversify our SACCO's revenue streams and enhance its financial resilience					
D6	External borrowing ratio is carefully monitored and managed to optimize financial performance					

D7	Non-earning assets in our SACCO are effectively managed to enhance financial performance					
	SECTION E: REGULATORY FRAMEWORK					
	Statement	1	2	3	4	5
E1	Compliance with regulatory requirements is a top priority					
E2	Non-compliance with regulatory standards poses significant risks to the financial health of our SACCO					
E3	Lending policy is aligned with regulatory guidelines to ensure prudent risk management.					
E4	Adherence to lending policy safeguards our SACCO's financial stability and performance					
E5	Inadequate membership oversight increases the likelihood of regulatory violations and financial risks.					
E6	Non-compliance with regulatory requirements adversely affects our SACCO's reputation and member trust					
E7	Overly burdensome regulatory reporting requirements hinder operational efficiency and financial performance					
	SECTION F: FINANCIAL PERFORMANCE					
	Statement	1	2	3	4	5
F1	Profit margin is satisfactory compared to industry benchmarks.					
F2	The growth rate of membership base positively influences its financial performance					

F3	The profit margin of our SACCO is a reliable indicator of its financial health and performance					
F4	Membership growth is directly correlated with the overall financial success of our SACCO					
F5	operating expenses are efficiently allocated to maximize profitability					
F6	actively monitor and manage operating expenses to ensure they remain in line with our financial objectives.					

Your time, effort, and cooperation in assisting me with my study are greatly appreciated.

Appendix III: Secondary Data Collection Sheet

Name of DT- SACCO	Financial Performance Metrics	2019	2020	2021	2022	2023	Mean
	Profit Margin (%)						
	Membership Growth (%)						
	Operating Expenses						

Appendix IV: List of Tier One DT SAACOs

1. MWALIMU NATIONAL
2. STIMA DT
3. KENYA NATIONAL POLICE DT
4. HARAMBEE
5. AFYA
6. UNAITAS
7. IMARISHA
8. TOWER
9. UNITED NATIONS DT
10. UKULIMA
11. INVEST AND GROW (IG
12. GUSII MWALIMU
13. HAZINA
14. BANDARI
15. MENTOR
16. IMARIKA
17. NEWFORTIS
18. SAFARICOM
19. METROPOLITAN NATIONAL
20. BORESHA DT

Appendix V: KeMu Approval Letter



KENYA METHODIST UNIVERSITY

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DIRECTORATE OF POSTGRADUATE STUDIES

Our Ref: KeMU/NACOSTI/BUS/45/2024

August 16, 2024

Commission Secretary
National Commission for Science, Technology and Innovations
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: JOHN MBABU (REG. NO. BUS-3-1715-1/2023)

This is to confirm that the above named is a bona fide student of Kenya Methodist University, in the Department of Business Administration, undertaking a Master's Degree in Business Administration. He is conducting research on; "Effect of Liquidity Management on Financial Performance on the Tier One Deposit Taking Saccos in Kenya".

We confirm that his research proposal has been defended and approved by the University.

In this regard, we are requesting your office to issue a research license to enable him collect data.

Any assistance accorded to him will be highly appreciated.

Yours sincerely,


Dr. John M. Muchiri (PhD)
Dean, Postgraduate Studies

Cc: Dean, KeBS
CoD, Business Administration
Postgraduate Coordinator - BA
Supervisors

Appendix VI: Nacosti License

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 163058	Date of Issue: 22/August/2024
RESEARCH LICENSE	
	
This is to Certify that Mr. John Mbabu of Kenya Methodist University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: EFFECT OF LIQUIDITY MANAGEMENT ON FINANCIAL PERFORMANCE OF TIER ONE DEPOSIT TAKING SACCOS IN KENYA. for the period ending : 22/August/2025.	
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