CREDIT MANAGEMENT PRACTICES, FIRM SIZE AND FINANCIAL SUSTAINABILITY OF DEPOSIT-TAKING SAVINGS AND CREDIT COOPERATIVE SOCIETIES IN KENYA

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Abstract

The study examined the moderating effect of firm size on the relationship between credit management practices and the financial sustainability of DT-SACCOs in Kenya. The study was grounded in information asymmetry theory, utilising a positivist paradigm and an exploratory research design. The target population consisted of 176 finance managers from 176 DT-SACCOs, providing a robust framework for analysis. The sample size was obtained using Yamane's formula, which resulted in 122 respondents, with a high response rate of 98 per cent for the structured questionnaires administered. Data was analysed using descriptive and inferential statistics. The inferential statistics revealed a strong positive association between credit management practices and financial sustainability, with p-values of 0.013. Notably, the Nagelkerke R-squared change demonstrated that firm size moderates the connection between credit management practices and financial sustainability. The study recommends enhancing financial sustainability through credit information sharing and establishing a deposit guarantee fund to protect members' funds in the event of license revocation or closure.

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1. Introduction

Deposit Taking Savings and Credit Cooperative Societies (DT-SACCOs) are critical pillars of financial inclusion globally, offering accessible savings and credit services to populations underserved by traditional financial institutions (Sing'ombe, 2022). Globally, SACCOs have mobilised over $3.1 trillion in savings, with approximately 84% of these funds directed toward lending, underscoring their pivotal role in fostering socio-economic development (WOCCU, 2024). However, the sector's rapid growth has not been without challenges. Notably, 15.1% SACCOs are currently facing sustainability threats due to ineffective credit management practices, high default rates and inadequate internal controls (WOCCU, 2024; WOCCU, 2022). These challenges are particularly pronounced among small and medium-sized SACCOs, where institutional capacity is often limited.

Across the African continent, SACCOs play a vital role in addressing credit access gaps, especially in rural and informal economies (AFDB, 2021). Yet, poor credit assessment procedures, lack of proper risk mitigation frameworks and weak enforcement of loan repayment policies have undermined the sector's stability. The World Council of Credit Unions (WOCCU, 2024) reports a sharp decline in the number of active SACCOs across Africa, with 37.4% of institutions being declared financially unsound. These systemic issues have not only strained liquidity positions but also eroded member trust, resulting in declining savings and loan uptake (Ali & Ndede, 2024). The situation is further aggravated by information asymmetry, where borrowers possess more knowledge about their financial capacities than lenders, often resulting in unmanageable credit exposure and non-performing loans (Apwoka et al., 2021).

In Kenya, DT-SACCOs are key players in the financial sector, managing substantial savings and credit portfolios and supporting the livelihoods of diverse socio-economic groups. Nevertheless, their sustainability is under growing pressure due to persistent weaknesses in credit management. According to the Sacco Societies Regulatory Authority (SASRA, 2023), over 62 percent of DT-SACCOs failed to meet the non-performing asset threshold of 5 percent and many

exceeded the ideal lending-to-deposit ratio of 100 percent, reaching levels as high as 113.4 percent (SASRA, 2023). This over-extension indicates a growing reliance on borrowed funds, exposing SACCOs to liquidity shocks and financial distress. Furthermore, loan repayment challenges remain acute, with Kshs 2.59 billion in non-remitted loan deductions recorded in 2023, affecting 82 DT-SACCOs and over 57,000 members (SASRA, 2023).

An emerging issue within this context is the role of firm size in shaping SACCO sustainability. While larger SACCOs may enjoy benefits such as economies of scale, diversified loan portfolios, and stronger governance structures, smaller SACCOs often grapple with limited resources, weak credit appraisal systems, and poor loan recovery mechanisms (Onsongo et al., 2025). These disparities raise critical questions about how organisational size moderates the relationship between credit management practices and financial sustainability. Despite ongoing regulatory reforms and enhanced supervision, 36% of DT-SACCOs were declared financially unsound in 2023, with several institutions experiencing license revocations due to insolvency and governance lapses (SASRA, 2023).

Given these concerns, this study investigates the relationship between credit management practices and the financial sustainability of DT-SACCOs in Kenya, with a particular focus on the moderating role of firm size. By identifying key gaps and offering actionable insights, the research aims to inform policy formulation and support institutional reforms that enhance the resilience and long-term viability of SACCOs in Kenya.

2. Statement of the problem

Deposit-taking Savings and Credit Co-operative Societies are vital financial institutions in Kenya that contribute to financial inclusion, economic empowerment, and poverty reduction, particularly among underserved populations. Lending constitutes the core business of DT-SACCOs, accounting for approximately 84% of their asset portfolio. This dominant investment activity is expected to enhance their financial sustainability by generating interest income and supporting members' socio-economic growth through access to affordable credit. However, despite their critical role, 36 percent of DT-SACCOs face growing challenges related to poor credit management practices, threatening their financial viability and long-term sustainability. According to the

SASRA (2023), 62 percent of DT-SACCOs are currently at risk of being delisted due to unsustainable loan portfolios, with 82 DT-SACCOs owed KES 2.6 billion from unremitted loan repayments. As a result, an average of five SACCOs were delisted annually between 2014 and 2019 (Muriithi, 2023), a trend that persisted into 2023 when four SACCOs lost their licenses due to poor credit performance and mismanagement. This situation leads to massive revenue losses, increased provisions for bad debts and a diminished capacity to meet member demands and operational costs (Maina et al., 2020). Moreover, potential borrowers, especially low-income members, are denied access to credit as funds remain tied up in defaulted loans, exacerbating financial exclusion and stalling individual and community development initiatives. This challenge not only undermines the financial health of SACCOs but also jeopardises Kenya's broader socio-economic goals, including Vision 2030, which prioritises the development of a robust, inclusive financial sector. It equally poses a threat to the achievement of the Sustainable Development Goals (SDGs), especially SDG 1 (No Poverty), SDG 8 (Decent Work and Economic Growth) and SDG 9 (Industry, Innovation and Infrastructure), all of which depend on accessible and well-managed financial systems (United Nations, 2022).

The extant literature on credit management practices and financial sustainability in SACCOs presents mixed and often inconclusive findings. For instance, Natufe and Evbayiro-Osagie (2023) identified a strong link between effective credit appraisal and financial sustainability in Nigerian microfinance institutions. In contrast, Ariyo (2023), studying cooperative societies in Uganda, found that strict credit policies enhanced loan recovery but had a minimal impact on long-term sustainability. In Rwanda, Nsengiyumva and Harelimana (2020) reported that credit risk controls improved financial sustainability when integrated with robust loan monitoring systems. Conversely, Gachini (2021) and Maina et al. (2020) highlighted that although many Kenyan SACCOs had credit policies in place, their effectiveness varied based on institutional size, governance quality, and enforcement capacity.

These divergent findings highlight a lack of consensus on the influence of credit management practices on financial sustainability, particularly in contexts with varied institutional capacities and regulatory environments. Moreover, the moderating role of firm size remains underexplored despite its potential to shape the effectiveness

of credit governance mechanisms. In Kenya, where DT-SACCOs are a cornerstone of the financial ecosystem yet remain vulnerable to high levels of non-performing loans, a context-specific analysis is urgently needed.

This study, therefore, seeks to address this gap by examining the effect of credit management practices on the financial sustainability of DT-SACCOs in Kenya, with firm size introduced as a moderating variable. By generating insights specific to the SACCO sector's operational realities, the research aims to inform theory, guide policy and support the design of more sustainable credit management frameworks.

The rest of the paper is organized into five sections. The following Section (Section 3) presents a review of relevant theoretical and empirical literature on credit management practices, firm size and financial sustainability. Further, Section 4 outlines the research methodology, including the research design, sampling procedures, data collection instruments and analytical techniques. Section 5 provides the results and discussion, focusing on the relationship between credit management practices, firm size and financial sustainability among DT-SACCOs. The last Section offers a summary of the key findings, conclusions and policy implications.

3. Literature review

Information asymmetry theory was pioneered by Akerlof (1970), developed by Spence (1973) and extensively expounded by Rothschild and Stiglitz (1976). The theory postulates that there is an imbalance of information between parties, leading to different behaviours compared to a situation with symmetric information. It is assumed that one party involved in a transaction possesses more or superior information than the other party, creating a potential imbalance in their decision-making (Maina et al., 2020). Within the scope of the credit landscape of financial institutions, the interplay between lenders and borrowers is intricately shaped by the concepts of moral hazard and adverse selection, where lenders confront difficulties while gauging the creditworthiness of potential borrowers (Kariuki, 2018).

However, the recent developments in asymmetric theory have revealed that the risk within a firm varies based on its size (Maina et al., 2020). For instance, small-sized SACCOs with low capital tend to

respond to moral hazard incentives by increasing the risk in their loan portfolios. This in turn, results in a higher number of non-performing loans when compared to large-sized SACCOs. On the other hand, large-sized SACCOs with more capital, gain a competitive advantage, allowing them to employ competent staff who make prudent decisions. This ultimately improves the sustainability of the SACCOs while reducing credit risk. It supports the assumption that the party with superior information has the incentive to exploit this advantage to maximise its own gains. However, the party with less information (borrower) may be aware of the existence of information asymmetry but may not be able to accurately gauge its extent (Rothschild and Stiglitz, 1976).

Despite the advancement, the theory faces critiques in its applicability due to its limited consideration of informal lending practices, which ultimately impact the quality of credit assessments and financial stability (FSD, 2021). This is in support of Kyombo et al. (2025), who revealed that information asymmetry in the informal sector is often addressed through social networks, local knowledge and community-based lending practices, which are not adequately captured by modern credit management practices. Selcuk (2024) further critiqued the theory, basing the argument on behavioural biases in credit decisions, depicting that information asymmetry often assumes rational behaviour in credit management, neglecting the impact of behavioural biases such as overconfidence and herd behaviour that may influence lending decisions, even when sufficient information is available. However, despite the critiques, the theory has played a major role in improving SACCOs liquidity.

SACCOs, being member-owned institutions, may be the only financial institutions that lend through a multiplier method and guarantorship model when advancing loans. This helps them leverage the information asymmetry to enhance credit management practices. Through recognising the existence of information imbalances, they have implemented strategies such as loan portfolio diversification, credit scoring and analysis, loan loss reserves, and SACCO solution insurance to mitigate lending risks (Sing'ombe, 2022). Equally, despite mitigating the moral hazard they also mitigate other challenges that may stem from adverse selection. This is done by improving communication channels to ensure members are well-informed about the borrowing process, implementing transparent credit scoring

mechanisms and providing financial education to empower them in making informed financial decisions.

In the study, information asymmetry theory will explore the effect of credit management practice and financial sustainability of DT-SACCOs. The theory posits that information asymmetry stems from borrowers providing inaccurate financial information, creating a challenge in differentiating between reliable and unreliable prospective borrowers. The consequence of this misinformation is the escalating problem of non-performing loans over time resulting to contingent illiquidity, financial distress leading to conservatorship and SACCOs declared unsustainable.

An empirical review related to the study's objective was conducted. Siddique et al. (2021) did a study on the effect of credit risk management and bank-specific factors on the financial performance on the South Asian Commercial banks. Non-performing loan, capital adequacy ratio, cost efficiency, average lending rate and liquidity ratios were the study predictors where bank size, inflation and age were the controllable variables. The study employed panel data and analyzed with the help of ordinary least square regression. The analysis established factors related to nonperforming include inadequate supervision and monitoring of customers, market issues and customers' lack of knowledge about loans. The study concludes that banks should recruit experts to maintain strong liquidity, essential for survival in a competitive environment. It recommends that commercial banks strengthen their financial ecosystem to reduce non-performing loans.

Natufe and Evbayiro-Osagie (2023) conducted a study on credit risk management and the financial performance of deposit money banks: some new evidence. Credit risk management was measured through the capital adequacy ratio, liquidity ratio, loan-to-deposit ratio, risk asset ratio, non-performing ratio and size. The study adopted credit risk theory and financial distress theory. Longitudinal research design and census method were considered, with twelve years of data from 2010 to 2021. The model revealed that the loan-to-deposit ratio has an insignificant nexus on financial performance. However, capital adequacy ratio, liquidity ratio, risk asset ratio, non-performing ratio and size has a significant nexus on financial performance. The study recommended that the Central Bank strengthen its regulatory functions with regular reviews to compel improvements in the credit risk management systems of deposit money

banks to mitigate the likelihood of failure in the credit life cycle of granted loans.

Ariyo (2023) employed credit terms, credit assessments and credit control to determine the effect of credit management and financial performance of Centenary Bank Uganda. A descriptive research design and simple random sampling were considered, where self-administered questionnaires helped to collect data from 40 respondents within the bank. Data collected was analysed using SPSS and Microsoft Excel. The analysis revealed a positive correlation between credit financing and the performance of Centenary Bank. The study conclusion and recommendations related to credit financing which is contrary to the study topic credit management and financial performance.

Nsengiyumva and Harelimana (2020) carried out a study with the aim of determining the contribution of loan management to the performance of savings and credit co-operatives in Rwanda. Loan management was measured through membership enrolment, client appraisal, credit risk control and collection policy whereas return on equity measured financial performance. Descriptive and inferential statistics were employed where the regression model revealed a positive nexus between membership enrolment, client appraisal, credit risk control and collection policy on financial performance of SACCOs. The study recommended SACCOs to employ competent employees to improve financial inclusion which may lead to increased membership and capital base. The study further recommended for education and training to SACCOs board of management to help them make prudent decisions.

Gachini (2021) did a study on the evaluation of the role of credit risk management on the profitability of commercial banks in Kenya and revealed a positive relationship. Credit risk identification, credit risk analysis and credit risk management were study predictors whereas bank size moderated the nexus. The study was anchored on a positivist paradigm and a descriptive research design. The data collected was analysed with the help of inferential statistics and descriptive statistics. Descriptive statistics revealed that despite high ratings from CRBs and FICO, borrower screening remains the most important method of screening borrowers. The study revealed a positive nexus between capital adequacy ratio, loan-to-deposit ratio, non-performing loan ratio, management efficiency ratio and profitability of commercial banks in Kenya. Based on findings, the study recommended that banks employ

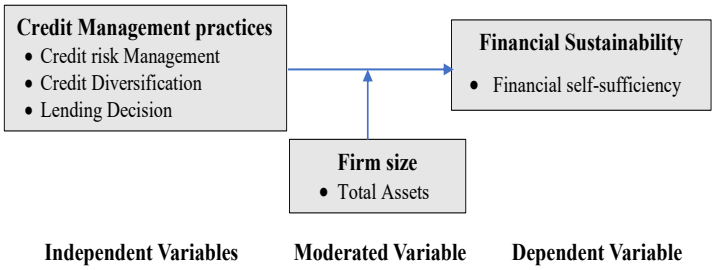
credit risk identification practices to reduce non-performing loans, which have adversely affected banks' profitability as well as financial sustainability.

Maina et al. (2020) aimed to determine the effect of credit management practice, SACCO size and financial sustainability of deposit taking savings and credit co-operatives in Kenya. credit management was measured through credit risk mitigation, staff competence whereas SACCO size moderated the relationship. Descriptive cross-sectional survey design and cluster sampling to determine the sample size. Deceptive statistics revealed that when issuing loans, credit officers consider guarantors information more, followed by credit report and number of withdrawable deposits. However, borrowers' repayment habit seems not to play a big role when screening borrowers' credibility as this can lead to a misleading signal. The regression model revealed a significant relationship between credit management practice and financial sustainability of DT-SACCOs. The study recommended SACCOs to hire employees with the necessary skills and experience, which may lead to improved service delivery and operational efficiency.

The study utilized an explanatory research design.

Figure 1

Conceptual framework



Source: Authors' representation

4. Methods

The study adopted exploratory research design within a positivism philosophical paradigm. Positivist paradigm ensured that the study was value-free employing objective measures to examine social reality. Theories were empirically tested and statistical models

employed to reinforce objectivity, unbiased observation and the understanding of a single external reality. Consequently, an exploratory research design was employed to investigate under-explored phenomena by formulating hypotheses based on theoretical frameworks, designing methodologies, collecting and analysing data and interpreting results to provide explanations. The sample size was determined using Yamane's formula resulting to 122 respondents. A two-stage sampling technique was employed, and data were collected using structured questionnaires. Out of the 122 respondents, 98 per cent (120) responded to the questionnaires. The reliability test affirmed the suitability of the data collection tools with a Cronbach's alpha value of 0.834.

A hierarchical binary logistic regression model was used where the following regression equations were applied to assess the potential moderating effect where equation 1 assessed the direct nexus between credit management practices and financial sustainability, equation 2 and 3 explored on the moderation and interaction effects.

$$Logit\,[p] = ln\frac{p}{1-p} = \beta_0 + \beta_1 CMP \quad (1)$$

$$Logit\,[p] = \beta_0 + \beta_1 CMP + \beta_2 FS \quad (2)$$

$$Logit\,[p] = \beta_0 + \beta_1 CMP + \beta_2 FS + \beta_3 CMP * FS \quad (3)$$

Where: $Logit\,[p]$ - the natural logarithm of the SACCOs will be financially sustainable; β_0= intercept; $\beta_1, \beta_2, \beta_3$= coefficients; CMP = credit management practices; FS = firm size (moderating variable); CMP*FS (credit management practices * firm size).

Nagelkerke R-squared change evaluated the strength of the moderating effect of firm size.

5. Results and discussions

Financial sustainability descriptive statistics

Financial self-sustainability (FSS) was employed to determine the DT-SACCOs' sustainability. The study expected that either the DT-SACCOs are financially sustainable, which was labelled as one, or otherwise labelled as 0. To determine the financial sustainability, the following formula was considered:

$$FSS = \frac{Adjusted\ Financial\ Revenue}{Adjusted\ Expense} \quad (4)$$

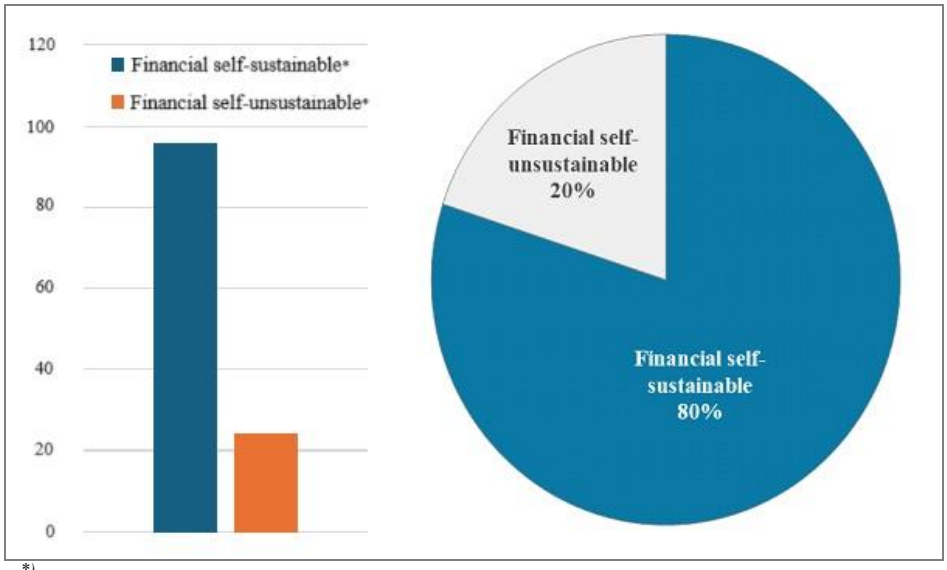
$$Adjusted\ Financial\ Revenue = Income\ from\ loans + Income\ from\ investments + Other\ income - Grants/subsidies \quad (5)$$

$$Adjusted\ Expenses = financial\ cost + operating\ cost + loan\ loss\ provision \quad (6)$$

The analysis established that 96 DT-SACCOs were financially self-sustainable, with 24 financially self-unsustainable (see Figure 2).

Figure 2

Financial Self-sufficiency



*) as frequency
Source: Authors' illustration

The 96 DT-SACCOs that are financially self-sustainable represent 80 percent of the total. In comparison, Mushonga (2018) found that 77 percent of financial co-operatives in South Africa were financially self-sustainable, although 82 percent faced difficulties in maintaining consistent profitability due to high operational expenses and inefficient management practices.

These findings align with those obtained by Anakpo et al. (2023), who emphasised that credit unions continue to face sustainability challenges, primarily stemming from capital limitations, elevated operational costs and heavy reliance on external funding.

Credit management practices, firm size and financial sustainability

Hierarchical regression models were used to assess the moderating effect of firm size on the relationship between credit management practices and the financial sustainability of deposit-taking SACCOs in Kenya. The analysis aimed to test whether firm size moderates the nexus. Nagelkerke R-squared change evaluated the strength of the moderating effect, as shown in Table 1.

Table 1

Hierarchical Regression Results

	Model 1			Model 2			Model 3		
Predictors	*Beta*[a]	*Wald*	*P*	*Beta*[a]	*Wald*	*P*	*Beta*[a]	*Wald*	*P*
(Constant)	-2.582	2.702	.100	-4.406	1.992	.158	2.779	.046	.830
CMP	.109	6.228	.013	.110	6.304	.012	-.102	.075	.785
FS				.196	.468	.494	-.614	.181	.671
CMP*FS							.024	.326	.568
Nagelkerke R^2		.084			.090			.094	

Source: Authors'

Based on the findings in Table 1, the hierarchical model 1 established a significant nexus between credit management practices and the financial sustainability of deposit-taking SACCOs, supported by a significant P-value of 0.013. The significance is further supported by Wald statistics (Wald = 6.228), which exceeds the critical Wald value of 1.96, indicating a significant relationship. The results align with previous studies by Ariyo (2023) and Maina et al. (2020), who found a positive link between credit management and financial performance and sustainability in DT-SACCOs. Moreover, the binary logistic regression model generated the following equation:

$$Logit\ [p] = \ln\left[\frac{p}{1-p}\right] = -2.582 + 0.109\ CMP$$

Model 2 investigated the moderating effect of firm size on the relationship between credit management practices and financial sustainability. The model revealed a significant nexus with a P-value of

0.012. this was in support of calculated Wald statistic of 6.304 which exceeded the critical Wald statistic value of 1.96. However, firm size on its own did not significantly predict financial sustainability, as indicated by a p-value of 0.494 and calculated Wald statistic of .468. The model generated the equation:

$$Logit\ [p] \ln\left[\frac{p}{1-p}\right] = -4.406 + 0.110\ CMP + 0.196\ FS$$

This indicates that a one-unit increase in credit management practices and firm size leads to a 0.110 and 0.196 increase in financial sustainability, respectively.

Model 3 explored the interaction effect of firm size on the relationship between credit management practices and financial sustainability. The inclusion of the interaction term resulted in an inverse relationship, with p-values of 0.785, 0.671 and 0.568 across the variables. These findings suggest that when firm size is considered as a moderating factor, the association between credit management practices and financial sustainability weakens, indicating a negative interaction effect. Consequently, the analysis generated the following equation:

$$Logit\ [p] = 2.779 - 0.102\ CMP - 0.614\ FS + 0.024\ CMP * FS$$

To determine the moderating effect of firm size on the relationship between credit management practices and financial sustainability, a hierarchical regression analysis was conducted across three models. Model 1 assessed the direct relationship between credit management practices and financial sustainability. The model established a Nagelkerke R-Squared value of 0.084, indicating that credit management practices explained 8.4% of the variance in the financial sustainability of DT-SACCOs. In Model 2, firm size was introduced as a moderating variable, resulting in an increase in the Nagelkerke R-Squared to 0.090. This change suggests that firm size has a positive moderating influence on the relationship. Model 3 incorporated the interaction term between credit management practices and firm size, which led to a further increase in the Nagelkerke R-Squared to 0.094. This additional improvement implies that the interaction between firm size and credit management practices enhances the model's explanatory power, suggesting that the effect of credit management on financial sustainability is influenced by the size of the SACCO.

6. Conclusions

Considering the research findings, the study concludes that a significant association exists between credit management practices and the financial sustainability of DT-SACCOs in Kenya. Moreover, the study concludes that firm size strengthens the relationship between credit management practices and the financial sustainability of DT-SACCOs in Kenya. Grounded in the study's findings, tailored recommendations have been developed to assist SACCOs in enhancing their credit management systems, with the goal of promoting sustained financial stability.

The study recommends establishing a deposit insurance guarantee fund to protect members' savings and ensure reimbursement in the event of a SACCO's failure. This measure is crucial for maintaining trust, especially among tier-three SACCO members who may lack the capacity to monitor the financial health of their institutions. Implementing such a scheme helps stabilise the SACCO sector by reducing the likelihood of panic withdrawals during periods of financial distress.

The study further recommends that SACCOs embrace credit information sharing as a strategic approach to curb the growing problem of loan defaults. However, the effectiveness of this strategy depends on establishing a robust legal framework. Currently, participation in credit information sharing remains discretionary, which limits its impact. To address this, SASRA and policymakers should prioritise legal reforms to resolve existing inconsistencies and make credit information sharing mandatory for all SACCOs. This recommendation is supported by SASRA’s observation that SACCOs rarely request credit reports from Credit Reference Bureaus (CRBs), despite frequently submitting member data to CRBs primarily for debt recovery purposes.

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