

**DETERMINANTS OF FINANCIAL DISTRESS IN DEPOSIT-TAKING SAVINGS
AND COOPERATIVES IN KENYA: MODERATED BY CULTURE AND FIRM SIZE**

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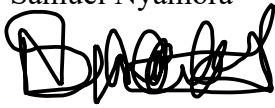
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DECLARATION

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ABSTRACT

Financial distress among deposit-taking Savings and Credit Cooperative Organizations (DT SACCOs) is commonly reflected in an institution's failure to adequately meet its financial commitments, often resulting in insolvency or major operational interruptions. Such challenges may arise from a combination of internal weaknesses and external pressures. In Kenya, several DT SACCOs have experienced collapse, leading to substantial losses for members. Without a clear understanding of the factors driving financial distress and eventual failure, the long-term viability of DT SACCOs remains uncertain. This study aimed to investigate the determinants of financial distress in deposit-taking savings and cooperatives in Kenya, while examining the moderating roles of organizational culture and firm size. Specifically, the study evaluated the influence of limited product offerings, management quality, and cash availability on financial distress among DT SACCOs. In addition, the moderating effects of culture and firm size were assessed. The research was anchored on Resource Dependence Theory and Agency Theory. A positivist research philosophy was adopted, consistent with the quantitative nature of the data. An explanatory research design was employed, utilizing secondary data collected through a structured data collection sheet. The study covered the period from 2019 to 2024, with the target population comprising all DT SACCOs registered and operational in Kenya by 2023. A total of 176 DT SACCOs formed the population, from which a random sample of 122 DT SACCOs was selected. Data analysis involved both descriptive and inferential statistical techniques. The findings revealed that limited product offerings had a significant positive effect on financial distress in DT SACCOs. Management quality was also found to have a significant positive relationship with financial distress, while cash availability exhibited a significant negative effect. Further results indicated that firm size significantly moderated the relationship between financial distress and its drivers, whereas organizational culture did not demonstrate a significant moderating influence. The study contributes to theory by reinforcing Resource Dependence Theory through evidence that product diversification reduces vulnerability to distress, while also suggesting that resource accumulation alone may be insufficient without strategic deployment. In relation to Agency Theory, the findings affirm that effective governance and aligned managerial incentives play a critical role in mitigating financial distress.

DEDICATION

I dedicate this research to my family, whose constant love, guidance, and support have been the foundation of my strength throughout this academic journey. To my parents, I am grateful for your constant faith in me and for inspiring me to keep striving for excellence and sacrifices in my potential, and to my siblings, for their consistent support and motivation and understanding. A special dedication goes to my partner. To all the mentors and educators who inspired me to pursue knowledge and excellence, this work stands as a testament to your guidance and influence. Lastly, I dedicate this work to all those striving for knowledge and transformation, proving that dedication and perseverance can lead to great accomplishments.

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ABBREVIATIONS

CODE: Cultural and Organizational Diversity Evaluation

DT SACCOs: Deposit-taking Savings and Credit Cooperatives.

KNFC: Kenya National Federation of Cooperatives

KUSCCO: Kenya Union of Savings and Credit Cooperatives

RDT: Resource Dependence Theory

SASRA: Society Regulatory Authority

DEFINITION OF TERMS

Culture- is a common, values, beliefs, attitudes, customs, and practices that define how members of an organization interact, make decisions, and conduct business. Culture influences employee behavior, customer service, ethical standards, risk management, and overall organizational performance (Odiakaose Odor, 2018)

Disincentive-Related Determinants- refer to factors within an organization or its environment that discourage optimal performance, prudent financial behavior, or effective decision-making. These are elements that reduce the motivation of staff, management, or members to act in ways that promote financial health and sustainability (Tortia, 2021)

DT SACCOs- are financial cooperatives licensed and regulated by the Sacco Societies Regulatory Authority (SASRA) in Kenya. These SACCOs are authorized to take deposits from their members and offer a wide range of financial services (Mursoi *et al.*, 2021)

Financial Distress- it is the incapacity the inability of financial institution or a company to meet its financial obligations due to insufficient revenues, poor cash flow, or excessive debt levels (Nguta, 2021)

Firm Size- its the magnitude of an organization, often evaluated by factors such as the total assets, revenue, or customer base. Firm size may be assessed based on membership size, loan portfolio, savings volume, or branch network (Ayinaddis & Tegegne, 2023)

Limited Cash Availability- refers to a situation where an organization has insufficient liquid funds (cash or easily accessible assets) to meet its short-term financial obligations, such as paying creditors, disbursing loans, or covering operational expenses (Kebede *et al.*, 2024)

Limited Products- refer to a narrow or restricted range of goods or services offered by a business or financial institution, which may not fully meet the diverse needs of its customers or members (Bwire, 2021)

Management Quality- refers to the competence, experience, integrity, and effectiveness of an organization's leadership and decision-making team in overseeing operations and achieving strategic goals (Farooq *et al.*, 2024)

LIST OF TABLES

Table 4. 1: Statistical Summary	39
Table 4. 2: Shapiro–Wilk W test for normal data	40
Table 4. 3: Test for Heteroscedasticity (Breusch–Pagan Test).....	41
Table 4. 4: Test for Serial Correlation (Breusch–Godfrey Test)	41
Table 4. 5: Variance Inflation Factor.....	42
Table 4. 6: Im-Pesaran-Shin (IPS) test.....	43
Table 4. 7: Im–Pesaran–Shin (IPS) Test after First Differencing	44
Table 4. 8: Hausman Test Results	45
Table 4. 9: Chow Test Results.....	45
Table 4. 10: Pearson’s Correlation Analysis	46
Table 4. 11: Regression Findings (Before Moderation).....	47
Table 4. 12: Moderated by Firm Size.....	48
Table 4. 13: Moderated by Culture	50

LIST OF FIGURES

Figure 2. 1: Conceptual Framework Illustration.....	28
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TABLE OF CONTENTS

DECLARATION	ii
ABSTRACT	iii
DEDICATION	iv
ACKNOWLEDGMENT	v
ABBREVIATIONS	vi
DEFINITION OF TERMS	vii
LIST OF TABLES	viii
LIST OF FIGURES	ix
TABLE OF CONTENTS	x
CHAPTER 1: INTRODUCTION	1
1.1 Background of the Research Study.....	1
1.1.1 Financial Distress in DT SACCOs in Kenya.....	2
1.1.2 Drivers of Financial Distress in DT SACCOs.....	6
1.1.3 Moderating Effect of Culture.....	7
1.1.4 Moderating Effect of Firm Size.....	9
1.2 Problem Statement.....	10
1.3 Research Objectives.....	11
1.3.1 Primary Objective.....	11
1.3.2 The Specific Objectives.....	11
1.4 Research Questions.....	11
1.5 Scope of the Study	12
1.6 Significance of the Research Study	13
1.6.1 Kenyan Government and Policy Makers.....	13
1.6.2 Management of SACCOs	13
1.6.3 Academicians.....	13
1.6.4 Other Researchers.....	14
1.7 Chapter Summary	14
CHAPTER 2: REVIEW OF LITERATURE	15

2.1 Theoretical Review	15
2.1.1 Resource Dependence Theory (RDT)	15
2.1.2 Agency Theory.....	16
2.1 Empirical Review of Extant Literature	17
2.2.1 Limited products and financial distress of DT SACCOs.....	17
2.2.2 Management Quality and financial distress of DT SACCOs	18
2.2.3 Limited cash availability and financial distress of DT SACCOs	20
2.2.4 Moderating effect of culture on the relationship between Drivers and financial distress of DT SACCOs.....	22
2.2.5 Firm size as a moderating effect on the relationship between disincentive-related drivers and financial distress of DT SACCOs.....	24
2.3 Summary of Research Gaps.....	26
2.4 Conceptual Framework.....	27
2.5 Operationalization of Variables.....	28
2.6 Chapter Summary	32
CHAPTER 3: RESEARCH METHODOLOGY	33
3.1 Introduction.....	33
3.2 Research Philosophy.....	33
3.3 Research Design	34
3.4 Population and Sampling	35
3.4.1 Population.....	35
3.4.2 Sample Size and Sampling Techniques	35
3.5 Data Collection	36
3.6 Data Analysis	36
3.7 Research Quality.....	37
3.7.1 Reliability	37
3.7.2 Validity.....	37
3.8 Ethical Factors in the Research Study	37
3.9 Chapter Summary	37

CHAPTER 4: PRESENTATION OF RESEARCH FINDINGS/RESULTS	39
4.1 Introduction.....	39
4.2 Descriptive Findings	39
4.3 Diagnostic Tests	40
4.3.1 Normality Test	40
4.3.2 Test for Heteroscedasticity	40
4.3.3 Test for Serial Correlation	41
4.3.4 Multicollinearity Test.....	41
4.3.5 Panel Unit Root (Stationarity) Test.....	42
4.4 Model Selection Tests	44
4.4.1 Hausman Test.....	45
4.4.2 Chow Test	45
4.5 Pearson’s Correlation Analysis	46
4.6 Main Regression Models	47
4.7 Chapter Summary	50
CHAPTER 5: DISCUSSION AND CONCLUSION.....	52
5.1 Introduction.....	52
5.2 Summary of the Research Findings	52
5.3 Discussion of the Findings.....	52
5.3.1 Limited Products and the Financial Distress of DT SACCOs.....	52
5.3.2 Management Quality On The Financial Distress of DT SACCOs	53
5.3.3 Limited Cash Availability on The Financial Distress of DT SACCOs.....	53
5.3.4 Moderating Effect Of Culture on The Relationship Between Drivers and Financial Distress of DT SACCOs.....	54
5.3.5 Moderating Effect of Firm Size on The Relationship Between Drivers and Financial Distress of DT SACCOs.....	54
5.4 Conclusion	55
5.5 Recommendations of the Research Study	56
5.5.1 Recommendations for SACCO Leadership.....	57

5.5.2 Recommendations for Regulators and Policymakers	57
5.5.3 Recommendations for Theory	57
5.6 Limitations of the Study	58
5.7 Areas of Further Research.....	58
5.8 Chapter Summary	59
REFERENCES.....	60
APPENDIX A: DATA COLLECTION SHEET	67

CHAPTER 1: INTRODUCTION

1.1 Background of the Research Study

Deposit-taking Savings and Credit Cooperatives (DT SACCOs) play a central role in financial systems worldwide, fostering financial inclusion, economic empowerment, and poverty reduction (Hezron & Muturi, 2022). DT SACCOs provide affordable financial services, including savings and credit, especially in marginalized rural areas with limited access to traditional banking institutions (Milic, 2021). DT SACCOs contribute to economic resilience by offering low-interest loans to individuals and small businesses, promoting entrepreneurship and economic growth (Fusco & Migliaccio, 2022). DT SACCOs' impact is especially significant in developing economies, where they bridge the gap left by commercial banks, helping to reduce inequality and stimulate local economies (Tortia, 2021). The regulatory environment varies globally, with some regions implementing robust supervisory frameworks to ensure stability and protect members' savings, while others face challenges related to governance and financial sustainability (Hezron & Muturi, 2022).

Globally, DT SACCOs have played a transformative role in enhancing financial inclusion, categorically in both developed and emerging economies. In the United States, credit unions—which operate similarly to DT SACCOs—serve more than 130 million members, providing affordable loans, mortgages, and financial literacy programs that strengthen household financial resilience (WOCCU, 2022). In India, cooperative credit institutions are central to rural financing, with primary agricultural credit societies offering affordable loans to farmers, thereby reducing dependence on informal lenders (NABARD, 2021). Similarly, in China, rural credit cooperatives have historically acted as the backbone of financial services in rural areas, mobilizing savings and providing credit to smallholder farmers and local enterprises (Zhang & Li, 2020). These experiences highlight that well-governed and effectively regulated SACCOs can significantly contribute to the economic growth, financial stability, and global poverty reduction. However, challenges such as digital transformation, governance failures, and rising competition from fintechs continue to shape their sustainability.

In Africa, DT SACCOs and cooperative financial institutions remain crucial vehicles for financial inclusion, particularly in economies with large unbanked populations. In South Africa, Savings and Credit Cooperatives (SACCOs) have provided financial services to underserved communities, though their growth has been constrained by regulatory gaps and limited capital mobilization (Co-operative Banks Development Agency, 2020). In Nigeria,

cooperative societies play a critical role in financing small-scale businesses and household consumption, especially in the unentered areas with limited infrastructure which limits access to formal banking services (Afolabi, 2023). Similarly, in Ghana, credit unions are highly integrated into the financial sector, with the Credit Union Association (CUA) ensuring strong governance and regulatory oversight, which has allowed them to expand outreach and maintain financial stability (Osei-Assibey, 2022). Despite their significance, SACCOs in the African region face common challenges such as weak governance structures, inadequate capitalization, and limited risk management frameworks. Nonetheless, they remain vital in bridging the financing gap, promoting entrepreneurship, and contributing to poverty alleviation across the continent.

DT SACCOs are pivotal financial institutions in Kenya, providing their members with crucial services such as savings, loans, and investments (Hezron & Muturi, 2022). The SACCOs significantly contribute to economic growth and development by facilitating financial inclusion and supporting medium and small enterprises. First, it is critical to note that the DT SACCOs support the economy's growth, the improvement of agriculture, the decrease of unemployment, and the elimination of poverty (Jekorir, 2022). However, the failure of DT SACCOs can have serious consequences, including loss of member savings, reduced access to credit, and overall financial instability in society.

Various DT SACCOs in Kenya such as Moi University SACCO, Transcom, Maono Daima, Greenhills, Ufundi, Nest SACCO Society Limited, Nandi Hekima SACCO, Sukari SACCO, and Miliki SACCO, have faced financial distress and collapse (Mursoi *et al.*, 2021). In the case of Ufundi SACCO, the failure of the management led to fraudulent activities by officials and unauthorized withdrawals of members' funds, leading to financial distress and subsequent collapse (Chelangat, 2022). Weak regulatory enforcement led to malpractices, especially in governance and financial audits, which resulted in the collapse of Moi University SACCO. Miliki SACCO and Transcom suffered limited liquidity from high levels of non-performing loans, which contributed to their collapse.

1.1.1 Financial Distress in Kenyan DT SACCOs.

DT SACCOs in Kenya plays a vital in the financial sector, particularly in promoting financial inclusion among underserved populations (SASRA, 2022). However, in recent years, many DT SACCOs have faced increasing financial distress, marked by reduced profitability, high non-performing loans (NPLs), liquidity challenges, and poor governance (Tortia, 2021).

Financial distress refers to a scenario which institutions are not capable to meet their financial obligations, often leading to loss of stakeholder confidence, regulatory sanctions, or eventual collapse if not addressed. In the context of DT SACCOs, this distress affects members' savings, access to credit, and trust in the cooperative movement (Nguta, 2021). A major indicator of financial distress observed in DT SACCOs is the rising level of non-performing loans (NPLs). SASRA 2022 through its Annual Supervision Report, the gross NPL ratio for DT SACCOs rose to 10.21% in 2022, surpassing the internationally accepted threshold of 5%. This upward trend signals deteriorating asset quality and poor credit risk management practices among SACCOs. A high level of NPLs erodes earnings and limits the ability of SACCOs to lend, hence triggering liquidity problems (Jepkorir, 2022).

Furthermore, the profitability of many DT SACCOs has been under pressure. While the total income of the sector grew modestly from KES 91.42 billion in 2021 to KSH 98.28 billion in 2022, several SACCOs reported declining net surpluses due to rising operating expenses and loan loss provisions (JepKorir, 2022). Financial distress is often worsened when a SACCO cannot generate enough income to cover its obligations, forcing it to depend on external borrowing or delay payments to depositors. According to SASRA (2022), only 172 out of 361 licensed DT SACCOs met the core capital adequacy ratio of 10%, which is a critical benchmark of financial health. Another contributing factor to financial distress is poor governance and mismanagement. SASRA has continually flagged cases of weak internal controls, board interference in operations, and lack of professional management in some SACCOs (Bwire, 2021). The Auditor-General's reports and investigations by the Commissioner for Cooperatives have cited financial misappropriations and irregular lending practices in several distressed SACCOs, such as Ekeza SACCO and Moi University SACCO. These malpractices expose SACCOs to financial losses and legal risks, undermining member confidence. Liquidity challenges also remain a serious issue (Kablay & Gumbo, 2021). Some DT SACCOs have failed to meet members' withdrawal requests on time due to poor cash flow management or over-investment in illiquid assets. According to SASRA (2022), the average liquidity ratio among DT SACCOs was 43.31% in 2022, below the statutory minimum requirement of 15%, yet several SACCOs failed to meet even this threshold, particularly smaller or newly established ones (JepKorir, 2022).

The first cooperatives were established in Kenya in 1908. The top cooperative organisation, Kenya National Federation of Cooperatives (KNFC), was established in 1964 with the duty of directing the growth of cooperative organisations (Wanyama, 2022). KNFC's

membership drive aimed to include primary, secondary, and national cooperatives. Its revenue streams include affiliation fees, government subsidies, donor funding, and technical assistance from more powerful cooperative movements, particularly in the USA and the Nordic region. KNFC would take over the function that the state was playing by becoming the leading advocate and defender of cooperative interests and by assuming the role of advisor to the government on cooperative development matters (Hezron & Muturi, 2022). According to Bulitia et al. (2018), 1964 experienced the formation of Kenya's first SACCO in Marira, Murang'a County, spearheaded by the Catholic church with the help of Fr. Joachim Getonga. A committee was established in 1967 to advance the growth of Savings and Credit Cooperatives nationwide. As a result, two chapters—one in Nairobi and the other in Mombasa—were established. The inability of members to consistently contribute shares or return loans given to them during this period posed a significant challenge to the liquidity of recently established SACCOs. Government regulations 1969 stated that employees may only form Savings and Credit Societies if their employers agreed to facilitate payroll deductions (Wanyama, 2016). Members' monthly loan repayments and share contributions would be taken from their paychecks and sent straight to their SACCOs. This "check-off system" was a vital launching pad for the nation's Savings and Credit Cooperatives, which expanded quickly. To discuss and contemplate creating a National Apex organisation to meet the demands of these societies, a national meeting of SACCOs was conducted in Nairobi in 1972. As a result, KUSCCO Ltd, was established (Ototo, 2022).

According to data from the Ministry which deals with Cooperative Development and Marketing, in 2010, 200 of the 12,000 co-ops in the nation were SACCOs. However, hundreds of defunct organisations from all sectors (including SACCOs) are listed in the cooperative register (Kariri & Kavinda, 2022; Ototo, 2022). The cooperative movement's fastest-growing subsector is SACCOs. They have successfully integrated members into the mainstream financial sector and offered advantageous savings and credit facilities. Millions of impoverished Kenyans depend more on SACCOs for short-term loans and business finance.

Furthermore, raising the necessary finances from their SACCOs has become easier for Kenyans who want to purchase assets like land and contemporary homes. Since then, SACCOs have grown significantly in terms of membership, numbers, and financial resources (Kariri & Kavinda, 2022). In Kenya, there were 22,000 SACCOs registered by 2017 and more than 14 million members. As to the study of the state's cooperative agency, their combined contribution to the national GDP was more than 30% (Kahindi, 2020). Also, DT SACCOS are vital to the

nation's socioeconomic development and substantially contribute to GDP. SACCOs have been contributing, on average, 48.55% of the gross national savings, highlighting their significance in saving mobilisation and making them ideal vehicles for fostering great savings culture for investment, as outlined in Vision 2030 (Odipo, 2022). Because of this, management must overcome several obstacles to boost returns, which entails more significant risk. Insolvency is one of the main risks to SACCOs and a cause of financial instability. Kenya's stricter regulations in this area have focused on the capital adequacy requirements for SACCOs and created financial reporting standards that all deposit-taking SACCOs must adhere to (Mursoi *et al.*, 2021).

Notwithstanding their noteworthy economic effect, DT SACCOs in Kenya have various obstacles, chief among them being financial instability. In DT SACCOs, financial difficulties can take many forms, including solvency problems, liquidity crises, and the inability to provide for members' basic needs. Financial distress in DT SACCOs is determined by various factors, including both external economic conditions and internal management practices (Jepkorir, 2022). Although Kenyan SACCOS have encountered challenges in the past years for many reasons, the main contributors to significant credit issues remain to be inadequate portfolio risk management, lax credit standards for borrowers, or a failure to recognise shifts in the economy or other situations that may worsen the credit position. The most significant and visible source of credit risk for SACCOs is loans. Given the vulnerability, credit risk remains the main cause of issues for SACCOs, by determining the factors that contribute to this risk, management ought to be able to learn valuable lessons from the past (Mursoi *et al.*, 2021).

Liquidity risk, the second element of financial concerns in this analysis, must also be understood. SACCOs frequently experience liquidity issues due to their need for knowledge about the different factors that determine these risks. They also need access to a lender of last resort facility as commercial banks do (Wanjiru & Jagongo, 2022). It is also necessary to identify the different sources of this risk because risks associated with a lack of liquidity have been a significant factor in the failure of numerous SACCOs. Otworko and Maina (2021) support the premise that understanding the different factors that influence the two financial risk components will help SACCOs improve its financial management techniques. This will increase efficiency and boost member confidence by lowering the frequency of collapses that they saw in the early years (Wanjiru & Jagongo, 2022). This study seeks to examine the factors that affect financial distress in Kenyan DT SACCOs related to disincentives, with a particular emphasis on how business size and culture affect these factors.

1.1.2 Drivers of Financial Distress in DT SACCOs

"Democratic, member-owned, and not-for-profit financial cooperatives that operate on self-help principles, bringing together individuals who share a common bond and collective ownership" is how Mbugua and Kinyua (2020) define SACCOs. Disincentive-related determinants refer to factors that discourage optimal performance and sustainability within financial institutions, leading to financial distress. In the context of DT SACCOs, limited product offerings can hinder growth and member satisfaction, reducing the institution's ability to compete and remain solvent. Management quality, characterised by incompetent or ill-equipped leadership, can result in effective decision-making and operational inefficiencies (Tortia, 2021). Additionally, inadequate cash availability affects liquidity, making it hard for institutions to meet their short-term mandatory requirements and increasing their financial distress risks. As official organizations, cooperative societies empower their members to collaborate freely and democratically to accomplish shared goals. For this reason, they must be handled effectively to prevent hardship and liquidation. In light of the industry's recent difficulties, which have seen numerous SACCOs fail with member profits, it is critical to comprehend how this situation may be avoided for the good of all parties involved and the economy (Mbugua & Kinyua, 2020).

Towo (2023), in a study conducted in Tanzania, notes that financial institutions in the Sub-Saharan region, including SACCOs, face similar challenges just like those encountered elsewhere in developing countries but within a unique context. Shilimi (2021) supports that SACCOs in Sub-Saharan Africa experience limited access to advanced financial services and products, which is expected due to infrastructural and technological constraints. As such, inadequate training and education opportunities often compromise management quality, and cash flow issues are exacerbated by economic volatility and limited access to capital markets. These factors collectively contribute to the financial distress observed in many Sub-Saharan African financial institutions, hindering their ability to support economic growth and financial inclusion (Shilimi, 2021; Towo, 2023). In Kenya, Muriithi (2024) supports that SACCOs experience limited product offerings, such as a lack of diverse investment options and modern financial services, which restricts their growth potential and member satisfaction. Gatimu (2022) argues that management quality issues in Kenyan SACCOs arise from the election of officials based on popularity rather than competence, leading to inefficient and sometimes corrupt practices. Cash availability is a persistent problem, with many SACCOs needing help

maintaining adequate liquidity due to limited access to external funding and economic pressures (Gatimu, 2022; Jepkorir, 2022; Muriithi, 2024). These issues significantly contribute to the financial distress Kenyan DT SACCOs face, threatening their sustainability and the financial well-being of their members.

Previous studies have explored the factors contributing to financial distress in various financial institutions but did not specifically focus on disincentive-related determinants. For example, Nguta (2021) assessed the impact of financial distress, board characteristics, firm revenue and related transactions in DT SACCOs in Nairobi County but did not address disincentive-related issues like limited product offerings or management inadequacies. Nguta (2021) should have investigated disincentive-related determinants of financial distress because internal factors like poor management quality, limited product offerings, and leadership inefficiencies can significantly impact financial stability, yet they remain underexplored in previous research. Jepkorir (2022) investigated the factors contributing to financial distress in Kenyan DT SACCOs but failed to target the disincentive factors related with financial distress. Onyango et al. (2021) studied firm-specific factors such as financial ratios and market conditions associated with financial distress in SACCOs but failed to assess the disincentive-related factors. Muriithi (2024) examined the economic pressures, governance inefficiencies, and liquidity challenges as factors in the financial distress of Kenyan SACCOs but overlooked factors such as incompetent management or inadequate product offerings. Bwire (2021) examined larger financial institutions, focusing on macroeconomic and market-based determinants but did not examine the internal disincentives such as poor leadership or product limitations. This proposed study fills the existing knowledge gap by focusing on the disincentive-related factors contributing to financial distress, such as limited product offerings, poor management quality, and cash availability, and how cultural factors and firm size, influence the relationship, which have not been fully addressed in previous research.

1.1.3 Moderating Effect of Culture

Culture plays a very significant role in defining the attitudes, behaviours and expectations of management and members within DT SACCOs, significantly influencing the institution's performance and resilience. Culture as a moderating variable impacts on the strength and direction of the relationship existing between disincentive-related determinants and financial distress (Mwenda, 2021). Cultural norms and values influence member expectations, risk tolerance, and management practices. Allan et al. (2024) explain that in some cultures, there is a strong emphasis on collective well-being and long-term stability, which can

enhance the institution's resilience to financial distress. Conversely, cultures prioritising short-term gains and individual benefits may experience more significant challenges in maintaining financial stability. In Sub-Saharan Africa, cultural factors play a crucial role in the functioning of financial institutions. The collectivist nature of many African societies promotes community support and solidarity, which can benefit SACCOs (Allan *et al.*, 2024). However, this same collectivist culture can also lead to entitlement mentalities, where members expect regular dividends and benefits even when the institution is struggling (Allan *et al.*, 2024; Mwenda, 2021).

Additionally, cultural practices such as informal financial arrangements and reliance on personal relationships can affect formal financial management and governance. In Kenya, Mwenda (2021) highlights that the sense of entitlement among members, expecting consistent dividends and interest payments regardless of the financial health of the SACCO, can put undue pressure on management. Additionally, cultural norms that prioritise community and familial ties can lead to the election of management officials based on popularity rather than competence. These cultural dynamics can mitigate or exacerbate the consequences of disincentive-related factors on financial distress, highlighting the need for culturally sensitive management practices and member education programs (Gatua, 2022).

The moderating impact of culture in the relations which exists between disincentive-related determinants and financial distress in DT SACCOs is an area with significant research gaps. Studies such as Sseremba (2022) focus on larger, more formal financial institutions in developed countries where cultural dynamics differ. In developed economies, cultural influences may be mitigated by more robust regulatory environments and homogeneous financial practices. However, in developing countries like Kenya, cultural factors such as member expectations, trust in leadership, and community support play a more pronounced role (Kinyuira, 2020). There is limited research examining how these cultural variables specifically affect DT SACCOs, which are deeply embedded in their local communities. Additionally, Shilimi (2021) noted that most studies focusing on culture as a moderator often employ a one-dimensional approach to analyzing culture, failing to capture its diverse nature and how it interacts with other variables. Methodologically, there is a need for in-depth qualitative research to understand the cultural aspects and their impact on financial distress in DT SACCOs.

1.1.4 Moderating Effect of Firm Size

Firm size significantly impacts the operational dynamics and resilience of DT SACCOs, serving as a moderating factor in the association between disincentive-related determinants and financial distress (Mwenda, 2021). Notably, larger DT SACCOs can leverage on the economies of scale which allows them to distribute the prevailing fixed expenses over a large volume of transactions. This can result in lower per-unit costs and enhanced operational efficiency. The size of a financial institution affects its ability to withstand financial distress (Monica et al., 2021). Larger institutions optimise on the economies of scale, more extensive resources, and wider access to capital markets, which can enhance their resilience. They can spread risks across a broad range of services and products and implement more robust risk management practices. Conversely, smaller institutions may face higher operational risks, limited resources, and reduced bargaining power which exposes them to financial distress (Allan, 2024).

Gidda (2021), in a study conducted in Ethiopia, highlight that larger microfinance firms can leverage their resources to navigate economic volatility and invest in advanced financial technologies and services. They can also negotiate better terms with suppliers and partners, enhancing operational efficiency. Smaller institutions, however, often need more access to resources and capital, higher operational costs, and greater exposure to economic and market fluctuations, increasing their risk of financial distress (Moshi, 2023). The same applies in Kenya; the size of DT SACCOs significantly influences their vulnerability to financial distress. Larger SACCOs have more substantial financial and human resources which makes them to have a variety of products and implement effective risk management strategies (Omeke, 2020). They are also better positioned to access external funding and capital markets. Smaller SACCOs on the other hand face challenges for instance limited diversification, higher per-unit costs, and reduced bargaining power, making them more vulnerable to financial distress (Allan, 2024).

There is limited research on the moderating impact of the firm size on financial distress in DT SACCOs, particularly in the context of developing countries (Gidda, 2021). Ishmael (2024), in their research, notes that most research have delved into the impact of firm size on financial performance, but they have predominantly focused on larger corporations and financial institutions in developed economies. The dynamics of firm size in DT SACCOs, which operate under different regulatory, economic, and social conditions, need to be better understood. In Kenya, there is inadequate research on how firm size interacts with other factors,

for instance management quality and cash availability, to influence financial distress (Waithaka & Odollo, 2024). Notably, many studies focusing on DT SACCOs, such as Atukunda et al. (2024) and Waithaka and Odollo (2024), have used cross-sectional data, which needs to capture the temporal dynamics of financial distress adequately. Scholars such as Omeke et al. (2020) argues that longitudinal research are needed to understand how firm size impacts financial distress over time in Kenyan DT SACCOs.

1.2 Problem Statement

Despite the pivotal role played by DT SACCOs in promoting financial inclusion and mobilising domestic savings in Kenya, the sector continues to experience persistent financial distress and institutional collapse, threatening the security of members' deposits and the sustainability of cooperative finance. Empirical and regulatory evidence indicates that between 2018 and 2024, several DT SACCOs including Moi University SACCO, Maono Daima SACCO, Transcom SACCO, Greenhills SACCO, Ufundi SACCO, Nest Sacco Society Limited, Nandi Hekima SACCO, Sukari SACCO, and Miliki SACCO either collapsed or were placed under regulatory intervention due to chronic liquidity shortages, governance failures, and non-compliance with prudential standards (Murso et al., 2021; SASRA, 2024). As at 2024, Kenya's DT SACCO sector comprised approximately 175 licensed institutions serving over 7 million members and holding assets exceeding KES 1 trillion, underscoring the systemic significance of the sector to the national economy (SASRA, 2024). However, the sector has been characterised by rising non-performing loans averaging between 8% and 9%, persistent employer non-remittances amounting to over KES 4 billion annually, and recurrent liquidity pressures that undermine operational stability (Gatimu, 2022; SASRA, 2024). Of particular concern is the widespread practice of SACCOs borrowing externally to finance dividends, driven by unrealistic member expectations and weak managerial discipline, a practice that contravenes cooperative principles and erodes capital adequacy and retained earnings (Chelangat, 2024; Franc-Dąbrowska & Mađra-Sawicka, 2020). In addition, governance-related losses arising from internal fraud, weak oversight, and managerial incompetence have been estimated at over KES 3 billion per year, further exacerbating financial distress within the sector (Gatimu, 2022). While prior empirical studies in Kenya have examined determinants of financial distress such as board characteristics (Nguta, 2021), firm-specific financial ratios and market conditions (Onyango et al., 2021), macroeconomic pressures (Bwire, 2021), and governance inefficiencies and liquidity constraints (Muriithi, 2024), these studies have largely overlooked disincentive-related determinants including limited product diversification, poor strategic leadership,

incompetent management, and weak organizational motivation systems that directly undermine competitiveness, member retention, and revenue sustainability. Furthermore, existing studies have not adequately examined how contextual factors such as organizational culture and firm size moderate the relationship between these disincentive-related factors contributing to financial distress in DT SACCOs. Consequently, the absence of a focused empirical inquiry into disincentive-related drivers of financial distress continues to limit effective policy formulation and managerial intervention, thereby sustaining the vulnerability of Kenya's DT SACCO sector. This research study therefore aimed to fill this critical knowledge gap by examining the influence of disincentive-related determinants on financial distress in DTSACCOs in Kenya, with organizational culture and firm size as moderating variables.

1.3 Research Objectives

1.3.1 Primary Objective

The main objective of this research is to examine the determinants of financial distress in DT SACCOs in Kenya: moderated by culture and firm size.

1.3.2 The Specific Objectives

The specific objectives are outlined below:

1. To determine the effect of limited products on the financial distress of DT SACCOs in Kenya.
2. To examine the effect of management quality on the financial distress of DT SACCOs in Kenya.
3. To investigate the effect of limited cash availability on the financial distress of DT SACCOs in Kenya.
4. To determine the moderating effect of culture on the relationship between drivers and financial distress of DT SACCOs in Kenya.
5. To examine the moderating effect of firm size on the relationship between drivers and financial distress of DT SACCOs in Kenya.

1.4 Research Questions

Based on the research objectives, the study addressed the following research questions:

1. How do limited product offerings affect the financial distress of DT SACCOs in Kenya?

2. What is the impact of management quality on the financial distress of DT SACCOs in Kenya?
3. How does limited cash availability contribute to the financial distress of DT SACCOs in Kenya?
4. What is the moderating effect of culture on the relationship between drivers and financial distress of DT SACCOs in Kenya?
5. How does firm size moderate the relationship between drivers and financial distress of DT SACCOs in Kenya?

1.5 Scope of the Study

The DT SACCOs in Kenya are the main subjects of this research study. To offer a thorough knowledge of the financial dynamics within these organisations throughout time, it looks at the 6 year duration from 2019 to 2024. This time span was selected to allow for a longitudinal examination of the most current patterns and trends in financial challenges in DT SACCOs. In this case, the DT-SACCO sub-sector in Nairobi, Kenya was the subject of this investigation. The investigator is optimistic that significant discoveries and deductions from this investigation proved beneficial in formulating financial, regulatory, and policy determinations about the industry. Also, during the survey period, the SACCO sector was subject to legal reforms, including the formation of SASRA supervision over the DT-Sub-sector (Nteere, 2022). The paper examined how culture and firm size modify these associations and covered various disincentive-related characteristics, such as limited product offers, managerial quality, and cash availability. As such, information was gathered from a representative sample of DT SACCOs to guarantee that the conclusions apply to a broader range of Kenyan regions. Since this study covered a period between 2019 and 2024, DT SACCOs registered and operating in Kenya by 2023 made up the study's target population. All DT-SACCOs that were actively registered were included in this study. These SACCOs have been approved to take customer deposits. There are 176 DT-SACCOs per the SACCO Societies Regulatory Authority Report 2023 (SASRA report, 2023). They are grouped into large, medium, and small tiers based on their asset size. The period 2019–2024 encompasses significant economic, regulatory, and institutional transformations that impacted the financial resilience of DT-SACCOs. A representative sample of DT SACCOs was chosen using a stratified random sampling technique. The DT-SACCO included those: (1) actively registered and approved to take customer deposits by SASRA as of 2023; and (2) with published audited financial reports and

regulatory filings accessible through SASRA publications, SACCO websites, or other public records

1.6 Significance of the Research Study

The research study on the drivers of financial distress in Kenyan DT SACCOs, with a focus on the moderating roles of culture and firm size, is of significant value to multiple stakeholders.

1.6.1 Kenyan Government and Policy Makers

The findings provide empirical evidence to guide policy formulation and regulatory oversight of SACCOs, which are integral to Kenya's financial inclusion agenda. By identifying the key drivers of financial distress, policymakers can design targeted interventions such as improved prudential regulations, early warning mechanisms, and tailored support programs for SACCOs facing distress. Furthermore, insights into the moderating impacts of culture and firm size enable the government to create context-specific policies that accommodate diverse operational environments across rural and urban SACCOs, thereby safeguarding depositors' funds and enhancing the stability of the cooperative movement.

1.6.2 Management of SACCOs

For SACCO leaders and managers, the study offers actionable insights on risk management and strategic decision-making. Understanding the external and internal factors that predispose SACCOs to financial distress helps management adopt preventive measures such as stronger governance frameworks, better liquidity and credit management, and tailored strategies that reflect their organizational culture and size. The findings also provide a basis for capacity building and performance benchmarking, enabling SACCOs to strengthen resilience and competitiveness in a dynamic financial sector.

1.6.3 Academicians

This research contributes to financial knowledge, cooperative management, and organizational studies by integration of the moderating impacts of culture and firm size—dimensions that are often underexplored in SACCO literature. The study enriches theoretical

frameworks on financial distress, providing opportunities for future comparative research in other developing countries where cooperative institutions play a central role in financial intermediation. It also serves as a valuable reference for teaching, case studies, and scholarly debates on financial stability and institutional sustainability.

1.6.4 Other Researchers

For scholars and practitioners engaged in financial and cooperative research, this study offers a foundation for further inquiry. The methodological approach and findings support replication studies, cross-country analyses, and deeper investigations into related themes such as governance, digital transformation, and member behavior in SACCOs. Additionally, the incorporation of cultural and firm size variables opens new research pathways on how contextual and structural factors influence financial performance and distress, fostering broader academic and professional engagement.

1.7 Chapter Summary

Chapter 1 delves into the background study of the research of the study area, problem statement, and the study objectives. It also gives an introduction of the research topic, establishing the foundation for examining the factors contributing to financial distress in Kenyan DT SACCOs and assessing the moderating roles of culture and firm size. Additionally, the chapter defined the study's research scope and highlighted its relevance and importance. Chapter 2 explores the review of existing literature, identifying relevant evidence and research gaps that can guide future investigations on the subject.

CHAPTER 2: REVIEW OF LITERATURE

2.1 Theoretical Review

This research was guided by two theories. The Resource Dependence Theory is the first theory which defines how the quality of management influences the financial related distress of organizations. The Agency Theory which is the second theory provides the basis for explaining how managerial quality influences financial distress. Each of the theories is described and their significance for the research is described.

2.1.1 Resource Dependence Theory (RDT)

Resource Dependence Theory (RDT) was developed by Salancik and Pfeffer in the year 1978 through their seminal work entitled *The External Control of Organizations: A Resource Dependence Perspective*. The theory is grounded on the idea that organizations are not entirely self-sufficient, but rather they exist in environments where they rely on external actors for critical resources such as finances, information, legitimacy, and human capital (Kebede *et al*, 2024). According to the theory, this reliance creates relationships of power and dependence, where organizations must adapt their structures and strategies to secure the resources necessary for survival and growth. Thus, organizational behavior is shaped less by internal efficiency alone and more by the need to manage environmental interdependencies (Martin & Sayrak, 2022).

The core assumption of RDT is that dependence on external actors exposes organizations to uncertainty and potential vulnerability. When an organization relies heavily on limited sources of resources, it increases its risk of instability, and the actors controlling those resources gain power to influence its decisions (Bwire, 2021). To mitigate these risks, organizations are expected to adopt strategies aimed at reducing dependence and managing environmental constraints. Such strategies may include restructuring, resource diversification, building networks, or adjusting governance mechanisms to ensure stability. In essence, the theory emphasizes that long-term sustainability depends on how well organizations manage the external dependencies that shape their operating environments (Nguta, 2021).

Applied to this study, Resource Dependence Theory provides a useful lens for examining the factors contributing to the financial distress in Kenyan DT SACCOs. SACCOs depend heavily on members, regulators, and financial markets for critical resources, and this dependence can contribute to distress if the flow of resources is disrupted or mismanaged (Kebede *et al*, 2024). The moderating role of organizational culture can be understood within

RDT as influencing how SACCOs perceive, interpret, and respond to resource dependencies, while firm size determines the extent of bargaining power and flexibility SACCOs have in managing these external pressures. By linking external dependencies with internal organizational factors, RDT helps explain why some SACCOs are more resilient to financial distress than others, thereby grounding the study in a strong theoretical foundation (Martin & Sayrak, 2022).

2.1.2 Agency Theory

Agency Theory was formulated in 1976 by Michael C. Jensen and William H. Meckling via their work titled; *Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure*. The theory expands on earlier economic ideas of the principal–agent relationship, in which one entity which is the principal, entrusts or delegates decision making power entity who is the the (agent) (Farooq *et al*, 2024). Jensen and Meckling posits that because the goals of principals and agents may not always align, conflicts of interest emerge, leading to agency costs such as monitoring, bonding, and residual losses. The theory therefore highlights the challenges of aligning incentives and ensuring accountability within organizations (Jepkorir, 2022).

The central premise of Agency Theory asserts that agents may act in their own self-interest over those of principals. This divergence of interests can create inefficiencies, risk-taking, or mismanagement, especially when principals cannot perfectly monitor agents' actions (Nguta, 2021). To mitigate such risks, mechanisms such as governance frameworks, incentive alignment, performance monitoring, and contractual arrangements are emphasized. In essence, the theory underscores the importance of designing organizational and financial structures that minimize agency costs and ensure that agents act in ways consistent with the objectives of principals (Muriithi, 2024).

In relevance of this study, Agency Theory provides an important framework for understanding financial distress in Kenyan DT SACCOs. SACCOs operate on the principle of member ownership, where members (principals) entrust managers and boards (agents) with the responsibility of safeguarding their contributions and making prudent financial decisions (Nguta, 2021). However, misaligned incentives, weak governance structures, or self-serving managerial behavior can expose SACCOs to financial mismanagement and distress. The moderating role of organizational culture is significant in shaping how agency relationships are managed, while firm size influences the extent of monitoring challenges and governance

complexity. Thus, Agency Theory helps explain how conflicts of interest, weak oversight, and governance failures contribute to financial distress, making it directly relevant to the objectives of this study (Muriithi, 2024).

2.1 Empirical Review of Extant Literature

2.2.1 Limited products and financial distress of DT SACCOs

Limited products are also linked with financial distress in organizations. Kebede et al. (2024) noted that diversification of services statistically has a positive association with insurers' financial health and negatively impacted on the probability of experiencing financial distress. Kebede et al. (2024) researched on the factors contributing to financial related distress in insurance organizations in Ethiopia. The outcomes of this research are consistent with the findings of Martin and Sayrak (2022), who in their survey of literature indicated that service diversification mitigates a company's failures.

Bwire (2021) asserts that limited product offerings are directly linked to financial distress in organizations. The absence of diversified products reduces revenue streams and increases an organization's vulnerability to market fluctuations. This foundational argument is also supported by Kebede *et al.* (2024), whose research outcomes reveal that diversification positively influences financial health and reduces the likelihood of financial distress in Ethiopian insurance companies. These results align with the research study of Martin and Sayrak (2003), who emphasized that diversification mitigates financial instability by broadening a firm's operational base and reducing dependency on narrow income sources.

Kebede *et al.* (2024) offer an in-depth empirical analysis, identifying diversification as a critical determinant of financial distress. The study adopted the Altmans Z-score model which revealed that organizations with a diverse number of products were least likely to undergo financial instability, as diversification provided a buffer against external economic shocks and enhanced operational flexibility. This perspective is consistent with Bwire (2021), who also links limited diversification to organizational financial challenges, though the latter provides less empirical detail. The study was grounded in a positivist research philosophy and employed an exploratory research design. It focused on a population comprising 42 commercial banks that were operational as of December 31, 2015. Martin and Sayrak (2022) further contextualize this by examining how the perception of diversification has evolved in the corporate finance literature, arguing that earlier claims of a "diversification discount" often stemmed from flawed

measurement techniques. Instead, they emphasize that properly measured diversification can stabilize firms by mitigating risks associated with reliance on limited products.

The impact of limited products on financial distress is further demonstrated in studies examining SACCOs. Although these studies, such as Nguta (2021), primarily focus on governance and board characteristics, they indirectly highlight the consequences of limited product diversification. Investigating financial distress among DT SACCOs in Nairobi, Nguta (2021) used longitudinal descriptive design with a sample of 43 SACCOs. The researcher noted that SACCOs offering a narrow range of products struggle to generate sustainable revenues, exposing them to higher risks of financial instability. While Nguta (2021) does not explicitly focus on product diversification, its findings on financial distress indirectly support the argument that limited offerings, coupled with ineffective governance, exacerbate distress.

The literature indicates that limited products hinder financial stability by restricting income diversity and increasing reliance on singular revenue streams. Studies such as Kebede *et al.* (2024) and Martin and Sayrak (2022) robustly demonstrate the advantages of diversification, offering empirical and theoretical insights into its stabilizing effects. In contrast, studies with a narrower focus, such as Bwire (2021), emphasize the negative impacts of limited products but lack the depth and methodological rigor to offer actionable solutions. These discussions emphasize that overcoming product limitations through diversification is crucial for reducing financial distress and enhancing organizational resilience.

2.2.2 Management Quality and financial distress of DT SACCOs

The issue of management quality and its influence on financial related distress has been a central focus in previous research, highlighting the importance of governance and management decisions in influencing performance in organizations. Farooq *et al.* (2024) researched on the factors contributing to financial distress in insurance firms in Ethiopia and found that company specific factors like profitability, liquidity levels, and earnings growth negatively impacted financial instability, reflecting management's ability to maintain operational efficiency. Conversely, high leverage and claims ratios were positively linked to financial distress, signaling that poor financial management practices could exacerbate vulnerabilities. The study emphasized that effective management of both internal operations and external economic factors to lower the probability of financial distress, underscoring the critical role of managerial quality in organizational sustainability.

Jepkorir (2022) explored the financial distress determinants in Kenyan DT SACCOs and revealed that pertinent transactions, interest rate spreads, and defaulted loans were significant contributors to financial distress. Poor oversight and weak loan appraisal processes, driven by management lapses, emerged as key risks. The study highlighted that SACCO management needed to prioritize transparency in transactions and improve lending practices to reduce the accumulation of bad loans. Furthermore, it was noted that management's ability to adapt to policy changes, such as amendments to SACCO regulations, significantly influenced the organization's financial stability. This underscores how proactive and competent managerial decisions play a critical role in navigating financial challenges.

Nguta (2021) investigated the influence of board characteristics on the financial distress of DT SACCOs in Nairobi County. The research revealed that board composition, level of education, and tenure were significantly and negatively correlated with financial distress. These findings emphasize the significance of experienced and qualified management in steering organizations away from distress. However, related party transactions and large board sizes, attributed to poor oversight, were found to exacerbate financial distress. The study recommended leaner, more diverse boards and emphasized the need for managers with relevant educational backgrounds to enhance decision-making processes, further emphasizing that managerial quality directly impacts the financial health of SACCOs.

Muriithi (2024) explored regulatory frameworks impacts on the efficiency of financial intermediation in Kenyan DT SACCOs and found that management practices, such as compliance with capital adequacy and credit management requirements, positively influenced financial performance. The findings indicated that effective investment management and disclosure practices, guided by regulatory adherence, reduced the financial distress risks. The study emphasized that management's ability to optimize SACCO size and implement efficient practices was a key determinant of financial resilience. Poor regulatory compliance and inefficiencies, on the other hand, were linked to financial vulnerabilities, stressing the importance of strong managerial oversight and adherence to governance standards.

The studies collectively highlighted the impact of management quality on financial distress, albeit with differing emphases. Farooq *et al.* (2024) and Jepkorir (2022) identified poor financial oversight and mismanagement of loans as significant contributors to distress, demonstrating a need for robust internal controls. Similarly, Nguta (2021) emphasized governance through board characteristics and their direct impact on management decisions. In contrast, Muriithi (2024) focused on compliance and regulatory management, demonstrating

how adherence to external standards could enhance financial stability. While Farooq *et al.* (2024) took a broader approach incorporating macroeconomic factors, the other studies placed greater emphasis on the internal dynamics of governance and decision-making.

Despite their contributions, these studies had limitations. Farooq *et al.* (2024) offered insights limited to the insurance sector, potentially reducing the applicability of its findings to SACCOs. Jepkorir (2022) and Nguta (2021) presented more sector-specific insights but focused on particular regions, limiting generalizability. Muriithi (2024) provided a strong case for regulatory compliance but lacked depth in exploring internal managerial dynamics beyond regulatory adherence. Future research could integrate these perspectives to provide an extensive study which explains how management quality affects financial distress across various organizational contexts.

2.2.3 Limited cash availability and financial distress of DT SACCOs

Restricted cash availability is a great contributor to financial related distress. Kebede et al. (2024) investigated the factors contributing to financial related distress in Ethiopian insurance organizations from data since 2010 to 2021. The research study adopted the Altman's Z-score model to evaluate the financial related distress and utilized pooled OLS regression for the analysis. Findings indicated that liquidity, as an evaluator of cash availability, had a significant negative impact on financial distress. This suggests that higher liquidity reduces the probability of financial distress, indicating the significance of maintaining adequate cash reserves for financial health and stability. Additionally, macroeconomic factors like inflation rates exacerbated financial related distress, showing the interplay between firm-specific and external economic conditions.

Likewise, Ayinaddis and Tegegne (2023) investigated the financial health and distress of Ethiopian insurance firms by applying a modified Altman model and utilizing panel data from 2010/11 to 2020/21. The study also identified liquidity as a significant determinant of financial distress, with higher liquidity levels positively associated with better financial health. Their findings underscored the protective role of sufficient cash resources against financial instability. The study further revealed that firm size was greatly and negatively associated with financial related distress, indicating that smaller organizations are more susceptible to cash flow challenges. Additionally, inflation exhibited a great and psotive relationship with financial distress, corroborating Kebede et al.'s findings on the influence of external economic pressures. Wesa and Otinga (2022) focused on listed firms at the Nairobi Securities Exchange

(NSE) to ascertain the influence of liquidity and other factors on financial distress. They used a multiple regression analysis and descriptive survey design. Liquidity was found to significantly reduce financial distress, highlighting the significance of maintaining adequate cash levels to meet short-term obligations. The study concluded that firms with limited cash availability faced heightened financial distress risks and recommended optimal liquidity management to enhance financial stability.

Thim *et al.* (2021) explored the association between financial related distress and firm characteristics among Malaysian companies from 2005 to 2009. The study used debt ratios as dependent variables and identified liquidity as a critical factor. Lower liquidity levels were linked to increased financial distress, highlighting the direct impact of cash constraints on firms' ability to meet obligations. These findings aligned with the conclusions of Kebede *et al.* (2024) and Wesa and Otinga (2022), which also emphasized the mitigating role of cash availability. Farooq *et al.* (2024) explored factors causing financial distress in Ethiopian insurance companies using data from 2010 to 2021. Their findings closely mirrored those of Kebede *et al.* (2024), identifying liquidity as a key factor. Limited cash availability was negatively associated with financial distress, demonstrating that adequate cash flow management could reduce financial vulnerabilities. Like Ayinaddis and Tegegne (2023), the research study emphasized the significant role of both firm-specific and macroeconomic factors in influencing financial health.

In contrast to these findings, Wangige (2022) examined the financial related distress among the non-financial organizations in Kenya using a Logit regression model. Although liquidity was analyzed, it had a non-significant negative association with financial related distress in this context. This diverged from the other studies, which consistently reported significant effects of cash availability on financial distress. The study attributed this variation to differences in market dynamics and firm characteristics, suggesting that liquidity might play a lesser role in certain industries or economic environments.

The reviewed studies collectively emphasized the vital role of liquidity in mitigating financial distress, though differences emerged based on context and methodology. Studies such as Kebede *et al.* (2024), Ayinaddis and Tegegne (2023), and Wesa and Otinga (2018) consistently highlighted liquidity as a significant factor, demonstrating its protective role across various sectors and regions. However, Wangige (2022) presented a contrasting perspective, indicating that the influence of liquidity might be contingent on specific market conditions. The main advantages of these studies lie in their robust methodologies and the practical

implications for policymakers and corporate managers. Nevertheless, some studies, such as Wangige (2022), faced limitations in generalizing findings across diverse contexts, underscoring the necessity for additional research to explore the nuanced role of cash availability in financial distress.

2.2.4 Moderating effect of culture on the relationship between Drivers and financial distress of DT SACCOs

Culture is a key pillar that shapes employee behavior by establishing a value system comprising beliefs, norms, and attitudes that drive individual and collective actions within a firm (Siakas & Siakas, 2023). The study by Vivek and Glenn Richey (2022) explored the role of cultural fit in joint ventures (JVs) and its impact on performance. The research integrated relational, transactional, and contingency perspectives, emphasizing the moderating effect of cultural compatibility on trust, commitment, and specific investments. Using a survey and hierarchical regression analysis, the study revealed that the perceived strength of fit between partners influenced JV performance by aligning relational and transactional constructs. Although this study focused on JVs rather than DT SACCOs, it highlighted how cultural compatibility mitigates the adverse effects of disincentives, such as opportunism, by fostering alignment and resilience, which is relevant for understanding financial distress in SACCOs.

Siakas and Siakas (2023) investigated cultural fit in global partnerships through the Cultural and Organizational Diversity Evaluation (CODE) model. Their longitudinal study used a combination of quantitative and qualitative methods to assess the role of cultural diversity in organizational collaboration. The findings underscored that cultural intelligence—understanding and appreciating cultural differences—enhanced collaboration and mitigated conflicts, enabling organizations to adapt to challenges. The emphasis on shared cultural norms aligns with DT SACCOs' need to integrate values and norms to address financial distress effectively. This study suggested that cultural fit could act as a moderating factor, improving decision-making and reducing the impact of disincentives like conflicting priorities.

Paschal and Nizam (2021) explored how organizational culture impacts employee performance within a telecommunications company in Singapore. Using a descriptive design and survey methodology, they found that rituals, values, and heroes significantly impacted employee performance, whereas symbols had minimal influence. The study demonstrated how a strong cultural framework could enhance organizational resilience by aligning employee behaviors with institutional goals. For DT SACCOs, this finding implies that a culture

emphasizing shared rituals and values can help mitigate the effects of financial disincentives by fostering collective action and improving performance under distress.

Odiakaose Odor (2023) reviewed the relationship between organizational culture and performance, emphasizing that positive cultural elements enhance sustainability and mitigate negative outcomes. The study relied on literature review and theoretical analysis to argue that organizations should prioritize cultural aspects that drive performance while eliminating detrimental practices. The findings supported the idea that adaptive and value-driven cultures moderate the effects of external pressures, including financial distress. For DT SACCOs, this suggests that emphasizing adaptability and alignment with organizational values can buffer the adverse impacts of disincentives.

Owoyemi and Ekwoaba (2022) assessed the role of strong organizational culture in federal institutions in Nigeria, employing descriptive and inferential statistical techniques to analyze and evaluate data collected through questionnaires. Their results indicated that while a robust culture motivates employees and enhances performance, it could also restrict autonomy and foster compliance without genuine commitment. This dual nature suggests that cultural alignment in DT SACCOs must balance control and employee engagement to mitigate financial challenges. The findings imply that a culture overly focused on conformity may exacerbate the impact of disincentives rather than alleviating financial distress.

Sisson and Elshennawy (2023) investigated factors contributing to successful lean transformations, emphasizing the integration of cultural components. Using multiple case studies, they identified cultural alignment as a critical enabler of organizational resilience and performance. The findings highlighted that organizations with aligned cultural frameworks were better equipped to adapt to operational challenges. In the context of DT SACCOs, this underscores the importance of a culturally cohesive environment that enhances flexibility and aligns employee efforts toward mitigating financial distress.

The studies collectively emphasized the moderating impact of culture on organizational resilience in the face of challenges, including financial distress. While Vivek and Glenn Richey (2022) focused on cultural compatibility in partnerships, Siakas and Siakas (2022) expanded on the role of cultural intelligence in collaboration. Similarly, Paschal and Nizam (2022) and Odiakaose Odor (2022) highlighted how shared values and adaptability strengthen organizational performance. However, Owoyemi and Ekwoaba (2024) pointed out the potential downsides of a rigid cultural framework, contrasting with Sisson and Elshennawy's (2015)

findings that emphasized cultural alignment as a driver of resilience. These studies collectively indicate that while a strong and adaptive culture can moderate the effects of disincentives, an inflexible culture may hinder efforts to address financial distress effectively.

2.2.5 Firm size as a moderating effect on the relationship between disincentive-related drivers and financial distress of DT SACCOs

The size of a firm is a very significant metric in moderating the relationship between disincentive-related determinants and financial related distress, particularly for DT SACCOs. Kebede et al. (2024) explored the factors contributing to financial related distress of insurance organizations in Ethiopia using a panel dataset from 11 firms between 2010 and 2021. The researchers applied Altman's Z-score model to assess financial related distress and conducted a pooled OLS regression analysis. The results revealed that firm size had a strong negative impact on financial related distress, implying that larger firms faced a lower likelihood of experiencing financial challenges than smaller ones. These findings were consistent with other outcomes of the study, which showed that profitability and liquidity were inversely related to distress related to financial. Conversely, macroeconomic factors such as inflation depicted a positive association with financial distress. This study highlighted that the moderating effect of firm size could buffer against financial distress, likely because larger firms had more resources to manage operational costs and external economic pressures.

In a similar manner, Ayinaddis and Tegegne (2023) investigated the elements leading to financial distress within Ethiopia's insurance realm during the period from 2010/11 to 2020/21.. They used a revised and improved version of Altman's Z-score model and performed regression analysis on panel data from 10 insurance companies. Their findings also emphasized that firm size negatively influenced financial distress, supporting the idea that larger firms were better equipped to handle financial challenges. However, they found that liquidity and profitability had a good association with financial related distress, which suggested that while firm size protected against distress, other internal factors could exacerbate financial vulnerability. This contrasted with Kebede et al.'s findings, where profitability was a stabilizing factor, indicating that firm-specific factors might play varying roles in different institutional contexts.

Tinoco and Wilson (2022) took a broader approach by investigating financial distress of company year observations of 23,218 sample organizations from 1980 to 2011, using a combination of accounting, market, and macroeconomic data to develop risk models. Their

study confirmed that firm size had a negative relationship with financial distress, meaning larger firms were less vulnerable to financial distress. The findings suggested that the economies of scale and market power enjoyed by larger firms helped mitigate the effects of financial pressures. However, their approach, which integrated a wide array of financial data, was not focused on a single sector and therefore lacked the specific focus on disincentive-related determinants like in the previous studies. This study demonstrated the utility of combining multiple financial indicators, although it may have overlooked sector-specific dynamics that could influence financial outcomes in DT SACCOs.

Liahmad et al. (2021) investigated how financial and non-financial indicators affect financial distress among Indonesian insurance firms, analyzing data from 15 companies over a four-year period. Their study showed that firm size positively influenced financial distress, diverging from the conclusions of earlier research. They suggested that larger firms, although possessing more resources, may be more susceptible to financial distress due to increased organizational complexity and higher exposure to market risks. This highlighted a potential drawback of larger organizations, where increased operational scale could lead to more significant financial challenges. Unlike the Ethiopian studies, Liahmad et al. suggested that while firm size may provide some benefits, it might also increase vulnerability to financial distress if not managed properly.

These contrasting results emphasize the complexity of firm size's role in moderating the relationship between disincentive-related determinants and financial related distress. While studies like those of Kebede *et al.* (2024) and Ayinaddis and Tegegne (2023) emphasized the protective role of larger firm size against financial distress, Liahmad *et al.* (2021) suggested that larger firms could also face unique challenges that increase their susceptibility to distress. Tinoco and Wilson (2023) supported the general idea that larger firms tend to experience less financial distress but did so with a broader sample, which might not capture the sector-specific factors that are critical for DT SACCOs.

The findings from these studies suggest that the firm size does serve as a moderating factor in the relationship between disincentive-related factors and financial distress, with the strength and direction of this effect varying across different sectors, the complexity of the firms involved, and the external economic environment. While larger firms may generally have more resources to mitigate financial distress, as indicated by Kebede et al. and Ayinaddis and Tegegne, other factors such as market complexity and governance issues, as found by Liahmad et al., can complicate this dynamic. The contrasting results also suggest that firm size alone

may not be the sole determinant of financial stability, with other internal and external factors influencing the financial health of firms, particularly in the context of DT SACCOs. These studies collectively emphasize the need for a nuanced understanding of how firm size interacts with financial distress factors in different institutional settings.

2.3 Summary of Research Gaps

Table 2.1: Summary of Research Gaps

Research Area	Identified Gaps	References
Limited Product Offerings	Existing studies often emphasize larger financial institutions rather than DT SACCOs, overlooking product diversity limitations affecting smaller SACCOs in developing regions.	Bwire (2021), Nguta (2021), Muriithi (2024)
Management Quality	Research on financial distress lacks focus on disincentive-related management factors, such as inadequate governance and leadership. Previous studies often address macroeconomic factors but overlook internal management limitations.	Jepkorir (2022), Muriithi (2024), Nguta (2021)
Cash Availability	Prior studies on financial distress in SACCOs do not extensively analyze cash availability as a disincentive-related determinant, particularly within developing economies.	Onyango et al. (2021), Jepkorir (2022), Waithaka & Odollo (2024)
Culture as a Moderator	Research on culture in financial institutions generally pertains to developed economies, where cultural factors may have a less pronounced role. Cultural impact within SACCOs in Kenya, including norms affecting expectations and governance, remains under-explored.	Mwenda (2021), Sseremba (2022), Kinyuira (2020), Shilimi (2021)
Firm Size as a Moderator	Most studies assess the effect of firm size on financial distress within larger corporations in developed	Gidda (2021), Ishmael (2024), Omeke (2020)

economies, neglecting the unique challenges faced by smaller DT SACCOs in Kenya.

2.4 Conceptual Framework

The conceptual framework adapted to guide this research study visualizes the relationship between several theoretical models, organizational factors, and financial distress in DT SACCOs. The conceptual framework shown in Figure 1, shows how factors could lead to financial distress, informed by various theories and intervening variables. There are two theories: RDT and Agency theory that underpins the framework. RDT indicates that organizations depend on external resources, and constraints or limitations in accessing these resources can impact performance. In the context of DT SACCOs, limited resources may include product offerings or financial capital. The agency theory indicates that an organization's structure and management effectiveness rely on external and internal conditions. Management quality in DT SACCOs may be agent upon market conditions, regulatory environments, and internal controls.

Figure 1 identifies three disincentive-related factors that could directly affect the likelihood of financial distress in DT SACCOs. One of the factors is the limited product. According to the framework, the SACCOs with a narrow variety of financial products may struggle to meet the diverse needs of their members, limiting revenue generation and competitiveness. The second determinant is management quality. Poor management can result in suboptimal decision-making, inefficiencies, and failure to capitalize on opportunities, leading to financial difficulties. The third determinant is cash availability. Cash flow constraints are a critical factors that can hinder SACCOs from maintaining liquidity, fulfilling obligations, and investing in growth.

The framework also indentifies two moderating factors: firm size and culture. According to the framework, larger SACCOs might have more resources and a greater capacity to mitigate financial challenges, while smaller ones might be more vulnerable. The organizational culture, including risk tolerance and decision-making practices, can influence how effectively a SACCO addresses financial challenges. Overall, the framework suggests that the determinant factors (independent variables), moderated by firm size and culture (moderating variables), lead to financial distress (dependent variable) DT SACCOs.

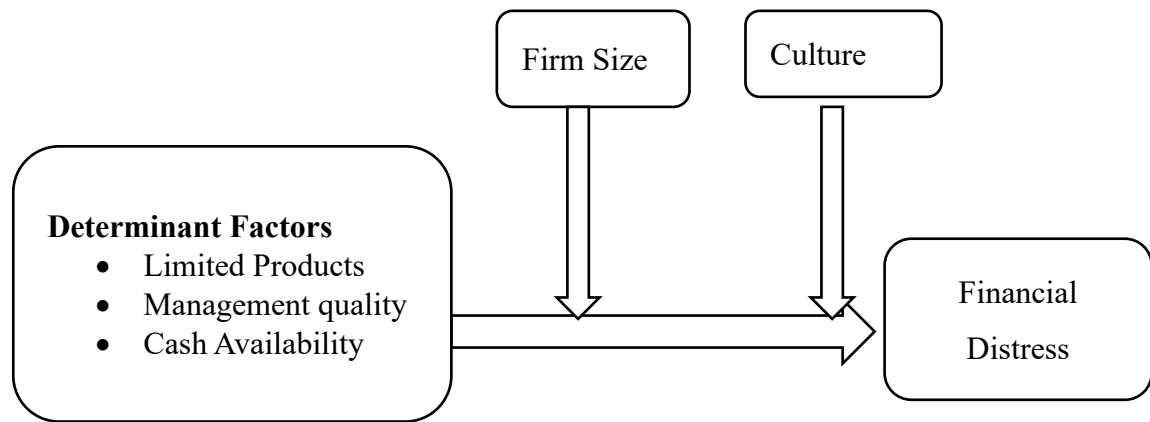


Figure 2. 1: Conceptual Framework Illustration

2.5 Operationalization of Variables

Table 2 operationalizes key variables affecting financial distress in Kenya's DT SACCOs, providing measurable indicators for each. Financial Distress, the dependent variable, is gauged through profitability, non-performing loans, and liquidity ratios (Tortia, 2021; Jepkorir, 2022). The following Zmiejewski (1984) model was used financial distress in Kenya's DT SACCOs:

$$\text{Financial distress} = -4.3 - 4.5X_1 + 5.7X_2 + .004X_3$$

Where;

X_1 = Total assets /Net income

X_2 = Total assets /Total liabilities

X_3 =Current liabilities/ Current assets

Independent variables include Limited Product Offerings (Nguta, 2021), measured by product variety and revenue diversification, Management Quality (Jepkorir, 2022) evaluated via leadership ratings and governance scores, and Cash Availability (Onyango et al., 2021) using liquidity indicators. Moderating variables, Culture and Firm Size (Allan et al., 2024; Gidda,

2021), assess cultural expectations and scale. This structured approach guides data collection and analysis to understand distress determinants.

Table 1.2:Operationalization of Variables

Variable	Definition	Indicators/Measurement	Measurement scale	Source
Financial Distress	Inability of DT SACCOs to meet financial obligations, leading to potential insolvency or operational disruption.	Zmijewski score If $Z > 0$, the firm is more likely to go bankrupt . If $Z < 0$, the firm is less likely to go bankrupt .	Continuous	Zmijewski (2022)
Limited Product Offerings	Restricted or inadequate range of products and services provided by DT SACCOs to members, focusing on credit and financial services	Number of product types	Continuous	Nguta (2021), Kablay & Gumbo (2021)
Management Quality	The competence and efficiency of management in achieving DT SACCOs' financial objectives.	Total advances to total deposits ratio, business per employee, and profit per employee.	Continuous	Mathiraj and Ramya (2022)
Cash Availability	Accessibility of cash or liquidity within DT SACCOs to cover short-term obligations.	Cash reserve ratio	Continuous	Onyango et al. (2021),

		$CRR = \left(\frac{\text{Cash Reserves with the Central Bank}}{\text{Net Demand and Time Liabilities (NDTL)}} \right) \times 100$		Mursoi et al. (2021)
Culture	Cultural norms and values influencing member and management behavior, attitudes, and expectations within DT SACCOs.	Hofstede's dimensions: Long- Versus Short-Term Orientation and Uncertainty Avoidance Index (high versus low).	Categorical	Team (2022)
Firm Size	Scale of DT SACCOs in terms of assets, membership, and financial resources.	Number of Members	Continuous	Gidda (2021), Moshi (2023)

2.6 Chapter Summary

Chapter 2 provides a literature review, focusing on two theoretical frameworks: Resource dependence theory and agency Theory, which inform the analysis of financial distress in DT SACCOs. The RDT theory is relevant to DT SACCOs, as it highlights the challenges SACCOs face in managing product offerings and cash flow due to reliance on external entities, which can increase financial vulnerability. Agency theory has its roots in economic thought, particularly in information economics. Early contributions to agency theory stem from research on incomplete information and risk-sharing in principal-agent relationships. Chapter 2 also includes an empirical review of the literature, examining how limited product offerings, management quality, and cash availability contribute to financial distress. Additionally, Chapter 2 explores how organizational culture and firm size can moderate these effects, shaping DT SACCOs' resilience against financial challenges. The study's hypotheses focus on these factors' influence on financial distress, guided by theoretical and empirical insights. Chapter 2 further details the existing research research gaps, the proposed conceptual framework, and the operationalization of key constructs, while Chapter 3 expounds the research methodology used in the study.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology adopted to attain the study's research objectives. The chapter includes study design, demographic and the sampling strategies, data collection, analysis of data techniques, ethical considerations, and research quality.

3.2 Research Philosophy

In business and management research, the most commonly applied research philosophies include interpretivism, postmodernism, pragmatism, critical realism, and positivism (Saunders et al., 2009; Creswell & Poth, 2018). Postmodernism questions the existence of objective truths and instead highlights fragmentation, multiple perspectives, and power relations in organizations (Hatch & Cunliffe, 2019). Though intellectually enriching, this perspective was not appropriate for the present study as it emphasizes deconstruction rather than testing causal relationships. Pragmatism is another influential philosophy that focuses on practical problem-solving approach and employ methods that best address research questions despite their ontological or epistemological commitments (Saunders *et al.*, 2019). Pragmatism typically advocates for a mixed-methods technique which integrates quantitative and qualitative data are used to give substantive insights. Critical realism assumes that although there is independent existence of reality from the perception of humans, the human comprehension of it is always mediated by social, cultural, and theoretical lenses (Bhaskar, 2020; Saunders et al., 2019). Researchers adopting this philosophy often combine quantitative and qualitative approaches, acknowledging both the underlying and observable structures that shape organizational outcomes.

This study adopted the positivism research philosophy since the data being collected and analysed was quantitative in nature. This study adopted the positivist philosophy because it sought to objectively identify the disincentive-related determinants of financial distress in DT SACCOs using measurable variables, such as cash availability, management quality, and product offerings. The study aimed to establish cause-and-effect relationships through statistical analysis, hypothesis testing, and generalizable findings. Unlike interpretivism, which focuses on subjective meanings (Alharahsheh & Pius, 2020), this research prioritized empirical evidence to develop concrete insights that inform financial policies and SACCO governance. Post-positivism, while acknowledging biases (Maksimovic & Evtimov, 2023), do not auger fully with this research study's emphasis on testing hypotheses and generating objective

conclusions. Pragmatism, though useful for mixed-methods research (Simpson, 2018), is not ideal for this study since the research design is purely quantitative. Therefore, positivism provides the most suitable philosophical foundation, ensuring rigorous analysis and reliable conclusions on the factors influencing financial distress in DT SACCOs.

3.3 Research Design

An explanatory research design categorically on quantitative methods was utilized in this study. The use of quantitative methodology is informed by the fact that it provides an opportunity to carry out the objective data analysis of the research phenomenon (Cadena-Iñiguez et al., 2017; Skinner & Dancis, 2020). Unlike qualitative, the quantitative approach allows the use of statistical methods, which allows generalization of the outcome (McNabb, 2015). Consequently, the quantitative strategy was important in establishing the disincentive-related determinants of financial distress in Kenyan DT SACCOs, focusing on the moderating effects of culture and firm size. Qualitative methods are not used since they categorically focus on the respondents' feelings and experiences, which are highly defined by the research context and tend to vary from one individual to another (Cadena-Iñiguez et al., 2017).

An explanatory research design enables data collection over an extensive period, allowing for the observation of changes and trends in the determinants factors which leads to financial distress among DT SACCOs in Kenya. Unlike a cross-sectional research design, which gathers data at a single point in time (Rindfleisch et al., 2008), an explanatory approach provides deeper insights into how variables such as governance practices, risk management, and external economic circumstances impact on financial related distress over time. This method is particularly suited to examining the moderating effects of culture and firm size, as it captures how these factors evolve and interact with financial performance over a six-year period (2019 to 2024).

The design allows for identifying patterns and relationships among variables while accounting for temporal changes, which enhances the robustness of the analysis. By collecting data at multiple time points, the study can distinguish between long term and short term trends fluctuations, providing a more robust comprehension of the issues at hand. Explanatory studies require a higher investment of time and resources compared to cross-sectional studies, but they yield richer data and more reliable conclusions. While cross-sectional studies require fewer resources and provide a snapshot of relationships (Rindfleisch et al., 2008), an explanatory

research design aligns better with the aim of capturing dynamic processes and the sustained impact of disincentive-related factors on financial distress.

3.4 Population and Sampling

3.4.1 Population

Since this research study covered a period between 2019 and 2024, DT SACCOs registered and operating in Kenya by 2023 made up the study's target population. All DT-SACCOs that were actively registered were included in this study. These SACCOs have been approved to take customer deposits. There are 176 DT-SACCOs per the SACCO Societies Regulatory Authority Report 2023 annual report. They are grouped into large, medium, and small tiers based on their asset size. The period 2019–2024 encompasses significant economic, regulatory, and institutional transformations that impacted the financial resilience of DT SACCOs. These events align directly with the study's variables — particularly disincentive-related determinants (product limitations, management quality, cash availability) — and provide a compelling temporal context for examining both direct and moderated effects on financial distress.

3.4.2 Sampling Techniques and Sample Size

A representative sample of DT SACCOs was chosen using a random sampling technique. The DT-SACCO included those: (1) actively registered and approved to take customer deposits by SASRA as of 2023; and (2) with published audited financial reports and regulatory filings accessible through SASRA publications, SACCO websites, or other public records. A DT-SACCO was excluded if (1) registered after 2023 since they did not meet the study's historical data requirement, and (2) inactive or ceased operations during the study period.

DT-SACCOs ($N = 176$) were considered for the research. The SACCOs sample size was ascertained using the Yamane Tora (1967) formula.

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

Where n denotes the sample quantity, N is the total population, and s is the precision level (margin of error = 0.1). Therefore, the sample size was;

$$n = \frac{176}{1 + 176(0.05^2)}$$

Therefore, the study targeted a sample of 122 DT-SACCOs. To ensure adequate representation, the diversity within the community, the population was stratified according to firm size (big and small SACCOs).

3.5 Data Collection

Secondary sources were utilized in this research study. Secondary data was retrieved from the SACCO regulatory filings, financial reports, and other pertinent papers. The information was extracted from DT SACCO audited published financial statements, DT SACCO websites, and SASRA publications. Data were entered into a data collection sheet (see Appendix 1). The collected data gave a thorough picture of the SACCOs' operational procedures and financial standing.

3.6 Data Analysis

Inferential and descriptive statistical techniques were applied to the analysis of the gathered data. The data were compiled using descriptive statistics, which also summarized the sample's main features. Inferential statistics for instance moderation analysis and multiple regression analysis were utilized to evaluate the study hypotheses and look at the relationships between variables. Since data were collected across five years, a linear mixed model (LMM) was used to account for the hierarchical structure of the data and to capture both random and fixed effects across SACCOs over time. The LMM, estimated using SPSS, allowed for the modeling of repeated observations within each SACCO and appropriately handled the within-subject correlations and unbalanced data.

$$FD_{it} = B_{0it} + B_1LP_{it} + B_2MQ_{it} + B_3CA_{it} + e_{it} \dots\dots\dots(i) \text{ before moderation}$$

$$FD_{it} = B_{0it} + B_1LP_{it} + B_2MQ_{it} + B_3CA_{it} + B_4FS_{it} + B_5LP_{it} \times FS_{it} + B_6MQ_{it} \times FS_{it} + B_7Ca_{it} \times FS_{it} + e_{it} \dots\dots\dots(ii) \text{ moderated by firm size}$$

$$FD_{it} = B_{0it} + B_1LP_{it} + B_2MQ_{it} + B_3CA_{it} + B_4CL_{it} + B_5LP_{it} \times CL_{it} + B_6MQ_{it} \times CL_{it} + B_7Ca_{it} \times CL_{it} + e_{it} \dots\dots\dots(iii) \text{ moderated by culture}$$

Key assumptions of linear mixed models were tested before conducting any analysis. The normality of residuals were assessed with the use of visual inspection of Q-Q plots and the Shapiro-Wilk test and. Homoscedasticity and linearity were evaluated by examining residual plots to ensure constant variance and linear relationships between the dependent and the

predictors variable. Independence of residuals within clusters was examined using intraclass correlation coefficients (ICCs), while the random effects structure was validated by comparing nested models using likelihood ratio tests. Multicollinearity among fixed effects was assessed using Variance Inflation Factors (VIFs), and influential cases were identified using Cook's distance and leverage diagnostics. These diagnostics ensured the underlying assumptions in the LMM were reasonably met and their estimated coefficients were unbiased and efficient.

3.7 Research Quality

3.7.1 Reliability

A limited sample of SACCOs took part in the pilot study to determine the research instruments' dependability. Data were subjected to appropriate diagnostic tests that have also been employed in the past related studies (Hair et al., 2019). The normality tests include tests of normality, serial correlation, heteroscedasticity and multicollinearity.

3.7.2 Validity

Validity is the level of extent in which the tools or models used in research precisely measures what they are intended and designed for evaluation (Creswell & Creswell, 2018). To ensure the validity of this research study, secondary data was retrieved from the DT SACCOS audited and existing financial statements.

3.8 Ethical Factors in the Research Study

Ethical considerations in this research study are crucial. Informed consent was sought from all the participants, and data confidentiality was upheld. The study respected the participants' rights and well-being by adhering to ethical criteria for research involving human beings. Before starting the process of data collection, the relevant institutional review board consent was obtained for ethical approval.

3.9 Chapter Summary

Chapter 3 offers an extensive description of the quantitative descriptive research design that was utilized to ascertain the disincentive-related determinants of financial distress in Kenyan DT SACCOs and to assess how culture and firm size moderate these relationships. The target research population are Kenyan DT SACCOs registered and operating in Kenya by 2023 were identified along with the data collection instrument, procedures for sampling, data collection, and data analysis. Issues associated with reliability and validity are also explained.

In Chapter 4, the findings were presented, and changes to the described methods, if any, was described.

CHAPTER 4: PRESENTATION OF RESEARCH FINDINGS/RESULTS

4.1 Introduction

This section entails the presentation of results of the analysed data on the drivers of financial distress in Kenyan DT SACCOs and to assess how culture and firm size moderate these relationships. The results are outlined and discussed based on the study's specific objectives, which include: evaluating the influence of limited product offerings on financial related distress of Kenyan DT SACCOs; evaluating the impact of management quality on their financial stability; evaluating the impact of restricted cash availability on financial distress; determining how culture within an organization moderates or influences the relationship which exists between disincentive-related factors and financial distress; and exploring firm size as moderating in the relationship between key drivers and financial distress in Kenyan DT SACCOs.

4.2 Descriptive Findings

The study sample comprised a total of 122 DT SACCOs categorized into three organizational tiers based on size. Of these, 35 SACCOs (28.7%) were classified as large-tier institutions, 53 SACCOs (43.4%) fell under the medium tier, and 34 SACCOs (27.9%) were categorized as small-tier SACCOs. The average Zmijewski Score is -1.55, but the scores vary quite a bit, with a standard deviation of 1.64. This denotes that there is a wide range of financial struggles among the DT SACCOs. The Deposit Ratio averages 63%, but its high standard deviation (26.25) indicates substantial differences in deposit-to-asset proportions. The Cash Reserve Ratio also has a mean of 9.26% and a 5.45% standard deviation which suggests the variability in the liquidity practice. SACCOs on average supply 4.21 products, with some variation (SD = 1.95). It has revenue that varies a lot, with an average of KES 703.99 million and a standard difference of 1174.01, along with some outliers (Table 3).

Table 4. 1: Statistical Summary

Variable	Mean	Std. Dev.	Min	Max
zmijewskiscore	-1.55	1.64	-7.86	2.50
depositratio	63.03	26.25	0.38	94.90
cashreserveratio	9.26	5.45	0.04	24.09
productofferings	4.21	1.95	1.00	15.00
revenuekesmillion	704.00	1174.01	10.52	8950.00
branches	3.75	3.29	1.00	25.00

members	23103.15	35876.03	356.00	348143.00
assetskesbillion	5.64	8.95	0.24	66.43
culturelto	1.01	0.66	0.00	2.00

4.3 Diagnostic Tests

Various diagnostic analysis tests were carried out to ensure validity and reliability of the regression panel model done to examine the underlying assumptions of normality, homoscedasticity, serial correlation, multicollinearity, and stationarity. Additionally, model specification tests were performed to determine the most appropriate estimation approach (Random Effects vs. Fixed Effects vs. Pooled OLS).

4.3.1 Normality Test

Null Hypothesis (H_0): The distribution of the model residuals conforms to the assumption of normality.

Alternative Hypothesis (H_1): The model residuals violate the assumption of normality.

Results from the Shapiro–Wilk normality test (Table 4.2) indicate a W value of 0.981 with a corresponding p-value of 0.072. This value exceeds the 5% level of significance, implying that the assumption of normally distributed residuals is upheld. Consequently, the residuals are distributed normally, which satisfies the normality assumption. Visual inspection of the Q-Q plot further supports this conclusion, as residuals closely followed the diagonal line.

Table 4. 2: Shapiro–Wilk W test for normal data

Variable	Shapiro–Wilk Statistic (W)	df	p-value
Residuals from LMM Model	0.981	122	0.072

4.3.2 Test for Heteroscedasticity

Null Hypothesis (H_0): The variance of the error terms remains stable and does not vary with the level of the explanatory variables.

Alternative Hypothesis (H_1): The residuals exhibit heteroscedasticity, indicating that their variance is not constant.

The presence of heteroscedasticity was examined using the Breusch–Pagan test (Table 4.3). The test reported a chi-square statistic of 3.214 with a p-value of 0.361. As the p-value is above the 5% threshold, the assumption of homoscedasticity holds, suggesting that the regression model is not affected by heteroscedasticity.

Table 4. 3: Test for Heteroscedasticity (Breusch–Pagan Test)

Test Statistic	df	p-value
3.214	3	0.361

4.3.3 Test for Serial Correlation

Null Hypothesis (H_0): The residuals are free from serial correlation.

Alternative Hypothesis (H_1): The residuals exhibit serial correlation.

The Breusch–Godfrey LM analysis test was conducted to validate the autocorrelation among the residuals (Table 4.4). The results indicated a chi-square value of $\chi^2 = 2.576$ with a p-value of 0.276. As the p-value is more than the 0.05 which is the significance, the null hypothesis is accepted. This finding suggests nonexistence of serial correlation exists in the panel data, confirming that the residuals are independent over time.

Table 4. 4: Test for Serial Correlation (Breusch–Godfrey Test)

Test	Statistic	Value
Breusch–Godfrey LM test	$\chi^2(3)$	2.576
Pr (p-value)		0.276
Observations		4000

4.3.4 Multicollinearity Test

Null Hypothesis (H_0): The independent variables are not affected by multicollinearity.

Alternative Hypothesis (H_1): The independent variables exhibit multicollinearity.

The Variance Inflation Factor (VIF) was employed to evaluate multicollinearity existence (see Table 4.5). The results show that all variables have VIF values below 10, with the highest being 2.68 for the cash reserve ratio. The mean VIF is 2.12, indicating mild to low correlation among predictors. Consequently, the null hypothesis of no serious multicollinearity is not rejected.

Table 4. 5: Variance Inflation Factor

Variable	VIF	1/VIF
cashreserv~o	2.68	0.374
deposit ratio	2.57	0.388
productoff~s	1.12	0.892
Mean VIF	2.12	

4.3.5 Panel Unit Root (Stationarity) Test

Null Hypothesis (H_0): The variable has a unit root (non-stationary).

Alternative Hypothesis (H_1): The variable is stationary.

The Im–Pesaran–Shin (IPS) test was applied to assess stationarity of the used variables (Table 4.6). Results show that Product Offerings exhibited a unit root, indicating non-stationarity, whereas the Cash Reserve Ratio and Deposit Ratio were stationary. This confirms that only one variable required transformation or differencing before estimation.

Table 4. 6: Im-Pesaran-Shin (IPS) test

Variable	Statistic	p-value	1%	5%	10%	Conclusion
Product Offerings	t-bar: -1.4875	Not Available	-2	-1.84	-1.77	Unit root present
	Z-t-tilde-bar: 6.0456	*	-1	-1.29	-1.17	Stationary
Cash Reserve Ratio	t-bar: -2.5477	Not Available	-3	-1.28	-1.53	Stationary
	Z-t-tilde-bar: 4.8281	- *	-2	-1.24	-1.32	Stationary
Deposit Ratio	t-bar: -25.3890	Not Available	-3	-1.23	-1.56	Stationary
	Z-t-tilde-bar: 6.7686	- *	-2	-1.23	-1.34	Stationary

The outcomes presented in Table 4.6 indicated that Product Offerings exhibited a unit root, indicating non-stationarity at level form. In contrast, both the Cash Reserve Ratio and the Deposit Ratio were found to be stationary at levels, implying that their statistical properties do not change over time. The existence of the unit root in the Product Offerings variable suggests that shocks to this variable have a permanent effect over time, potentially distorting regression outcomes if left uncorrected.

To correct the non-stationarity problem, the Product Offerings variable was transformed through first differencing. This process removes the trend component in the data and stabilizes its mean and variance over time, thus achieving stationarity. After applying first differencing, the IPS test was re-run to confirm the transformation's effectiveness. The post-differencing results are outlined in Table 4.7.

Table 4. 7: Im–Pesaran–Shin (IPS) Test after First Differencing

Variable	Statistic	p-value	1%	5%	10%	Conclusion
Δ Product Offerings	t-bar: -3.4872	—	-2.00	-1.84	-1.77	Stationary
	Z-t-tilde-bar: -5.2168*	—	-2.00	-1.84	-1.77	Stationary

The results in Table 4.7 show that after applying first differencing, the Product Offerings variable became stationary, as evidenced by the significant negative test statistics. This implies that the non-stationarity problem was successfully resolved. Consequently, all variables in the model were confirmed to be stationary, either at level or after first differencing, making them suitable for regression analysis.

This finding validates the appropriateness of proceeding to subsequent econometric analyses, such as cointegration and regression modeling, without the risk of spurious correlations. Ensuring stationarity at this stage enhances the robustness, reliability, and interpretability of the final model estimates.

4.4 Model Selection Tests

The Chow Test results indicate significant differences between Groups; therefore, the Pooled OLS model was not the efficacious model, and the Fixed Effect model is preferred for this data. With a high rho value (0.48), much of the variability in the dependent variable is discussed by differences across SACCOs, and so it is appropriate to use fixed effects. Furthermore, the within R^2 of 0.14 means that the model expounds a reasonable amount of variance within each group. Furthermore, the explanatory power of the fixed effects model, all coefficients are statistically significant ($p < 0.01$). The value of the Hausman analysis test between the random effect and fixed effect model is ($p < 0.01$); therefore, if random impacts yield inconsistent estimates, the fixed effects should be preferred. Unlike the random effects model, the fixed effects model provides a better explanation for the amount of the within-group variation ($R^2 = 0.1443$). Furthermore, the coefficients in the models show substantial differences in deposit ratio, cash reserve ratio, and the coefficients of product offerings, which, according to the product offerings, change from positive to negative. The fixed effects model

is backed up by both the F test and the Hausman chi-square test, as the latter indicates a better fit and reliability for this analysis.

4.4.1 Hausman Test

Null Hypothesis (H_0): The Random Effects model is the appropriate specification.

Alternative Hypothesis (H_1): The Fixed Effects model is the appropriate specification.

The Hausman test produced a chi-square value of 14.378 with 3 degrees of freedom and a p-value of 0.0025, which is statistically significant at the 5% level. Consequently, the null hypothesis is rejected, suggesting a systematic variation in coefficients between the random and fixed effects models.

Table 4. 8: Hausman Test Results

Test Statistic (χ^2)	Degrees of Freedom	p-value	Decision
14.378	3	0.0025	Reject $H_0 \rightarrow$ Use Fixed Effects

4.4.2 Chow Test

Null Hypothesis (H_0): Pooled OLS model is appropriate.

Alternative Hypothesis (H_1): Fixed Effects model is appropriate.

The Chow test resulted to an F-statistic of 6.842 with a p-value of 0.000. The p-value is less than 0.05 significance level hence the null hypothesis is rejected. Therefore, the Fixed Effects model is preferred over Pooled OLS, confirming significant cross-sectional (entity-specific) differences.

Table 4. 9: Chow Test Results

F-statistic	df1	df2	p-value	Decision
-------------	-----	-----	---------	----------

				Reject $H_0 \rightarrow$
6.842	122	488	0.000	Use Fixed Effects

4.5 Pearson's Correlation Analysis

Pearson's correlation analysis was done to evaluate the strength and the direction of linear relationships among the main research variables before performing the regression analysis. This analysis complements the multicollinearity test by identifying any high inter-variable associations that might distort parameter estimates.

The correlation results indicate that financial distress (FD) is significantly and positively related to limited products ($r = 0.624$, $p < 0.001$), implying that SACCOs offering fewer products tend to experience higher financial distress. Management quality ($r = -0.412$, $p < 0.001$) and cash availability ($r = -0.543$, $p < 0.001$) are both negatively associated with financial distress, suggesting that better managerial performance and higher liquidity reduce distress risk.

Firm size exhibits a moderate but positive relationship with financial distress ($r = 0.216$, $p < 0.01$), showing that larger SACCOs face slightly higher distress, possibly due to operational complexity. Organizational culture shows a weak and insignificant correlation with financial distress ($r = -0.092$, $p > 0.05$), implying limited direct influence.

Table 4. 10: Pearson's Correlation Analysis

Variables	Financial Distress (FD)	LP	MQ	CA	FS	CL
Financial Distress (FD)	1					
Limited Products (LP)	0.624***	1				
Management Quality (MQ)	-0.412***	-0.386***	1			
Cash Availability (CA)	-0.543***	-0.437***	0.398***	1		

Firm Size	0.216**	0.188**	-0.074	-0.058	1	
(FS)						
Culture (CL)	-0.092	-0.056	0.063	0.079	0.084	1

4.6 Main Regression Models

The F-statistic ($F(120, 467) = 2.60, p < 0.0000$) indicates that the model was statistically robust, signifying a very strong overall relationship between the predictors and financial distress. A negative correlation of -0.5426 between the group-specific effects and the explanatory variables ($\text{corr}(u_i, Xb)$) points to the influence of unobserved heterogeneity on the model estimates. The rho statistic, valued at 0.4756 , shows that close to half (47.6%) of the variability in the dependent variable is due to unobserved group-level characteristics, thereby validating the use of a fixed effects model.

The regression results presented in Table 4.11 show that the deposit ratio exerted a statistically significant positive influence on financial distress ($\beta = 0.02, p < 0.05$). In contrast, the cash reserve ratio demonstrated a significant negative relationship with financial distress ($\beta = -0.11, p < 0.05$), indicating that higher levels of cash reserves lower the probability of distress. Additionally, product offerings were found to have a significant positive effect on financial distress ($\beta = 0.26, p < 0.05$), implying that greater diversification of products enhances financial stability. The constant term was negative (-3.10), setting the baseline for the dependent variable. Overall, the base model effectively explained the relationship between the Zmijewski score determinants.

Table 4. 11: Regression Findings (Before Moderation)

$\text{corr}(u_i, Xb)$	-0.5426
Prob > F	0
σ_u	1.3117225
σ_e	1.3773775
rho	0.4755993
F test (all $u_i=0$)	$F(121, 466) = 2.60$
Prob > F ($u_i=0$ test)	0

Variable	Coefficient	Std. Err.	t	P> t
depositratio	0.02	0.00	6.41	0.00
cashreserveratio	-0.11	0.02	-5.94	0.00
productofferings	0.26	0.04	6.28	0.00
_cons (Intercept)	-3.10	0.21	-14.73	0.00

Incorporating firm size notably enhanced the model's explanatory power, with the within R^2 increasing from 0.07 to 0.14 and the between R^2 rising from 0.55 to 0.70. The F-statistic ($F = 26.20$, $p < 0.000$) confirmed that the model remained statistically robust. Additionally, the rho value of 0.48 indicates that approximately 48% of the variance in financial distress is attributable to unobserved SACCO-level characteristics.

The results reveal that limited product offerings had a statistically significant positive effect on financial distress ($\beta = 0.240$, $p < 0.05$). Likewise, management quality was found to exert a significant positive influence on financial distress ($\beta = 0.018$, $p < 0.05$). Conversely, higher levels of cash availability were associated with a significant decline in financial distress ($\beta = -0.102$, $p < 0.05$). Notably, firm size also demonstrated a significant positive association with financial distress ($\beta = 0.056$, $p < 0.05$), indicating that larger SACCOs may face heightened financial challenges.

Regarding interaction terms, the interaction between limited products and firm size had a significant and positive impact ($\beta = 0.031$, $p < 0.05$), implying that the adverse effect of limited product offerings on financial distress increases with firm size. The interaction between cash availability and firm size had a positive but insignificant impact ($\beta = 0.024$, $p = 0.059$), indicating that the moderating impact of size of the firm on liquidity was weak. The interaction between management quality and size of the firm had no significant and negative impact ($\beta = -0.009$, $p = 0.197$), suggesting that management quality influences financial distress independently of firm size.

Table 4. 12: Moderated by Firm Size

Variable	Coefficient	Std. Err.	t	p-value
Limited Products (LP)	0.240***	0.042	5.71	0.000

Management Quality (MQ)	0.018***	0.004	4.60	0.000
Cash Availability (CA)	-0.102***	0.021	-4.86	0.000
Firm Size (FS)	0.056**	0.027	2.07	0.039
LP × FS	0.031**	0.014	2.21	0.027
MQ × FS	-0.009	0.007	-1.29	0.197
CA × FS	0.024*	0.013	1.89	0.059
Constant	-2.980***	0.250	-11.92	0.000

After Inclusion of Culture as Moderator:

The third regression model tested whether culture within an organization moderates the existing association between the determinants and financial distress. The results (Table 4.13) show only marginal improvement in model explanatory power, with the within R² increasing slightly from 0.1400 to 0.1456, while the between R² decreased from 0.7010 to 0.6524. The F-statistic ($F = 19.81$, $p < 0.001$) confirmed the statistical significance of the model.

The empirical results demonstrate that limited product offerings exert a statistically significant positive influence on financial distress ($\beta = 0.259$, $p < 0.05$), indicating that narrower product portfolios heighten vulnerability to financial challenges. Similarly, management quality was found to have a significant positive association with financial distress ($\beta = 0.021$, $p < 0.05$), suggesting that deficiencies in managerial effectiveness contribute to increased distress levels. In contrast, cash availability exhibited a significant negative relationship with financial distress ($\beta = -0.105$, $p < 0.05$), implying that stronger liquidity positions reduce the likelihood of financial difficulties.

With respect to moderation effects, the findings reveal that organizational culture does not significantly moderate the relationship between the identified determinants and financial distress. Although culture may influence internal operations and behavioural norms, its impact on the financial outcomes of SACCOs was not statistically significant in this study.

Table 4. 13: Moderated by Culture

Variable	Coefficient	Std. Err.	t	p-value
i. Limited Products (LP)	0.259***	0.043	6.02	0.000
ii. Management Quality (MQ)	0.021***	0.004	5.25	0.000
iii. Cash Availability (CA)	-0.105***	0.020	-5.27	0.000
Culture (CL)	-0.018	0.025	-0.72	0.470
LP × CL	-0.003	0.004	-0.84	0.400
MQ × CL	0.002	0.003	0.65	0.518
CA × CL	0.005	0.004	1.19	0.235
Constant	-3.050***	0.230	-13.26	0.000

4.7 Chapter Summary

Chapter 4 presents the analyzed regression results on the factors influencing financial distress in Kenyan DT SACCOs, including the moderating roles of firm size and organizational culture.

Results from the baseline model indicate that limited product offerings were positively and significantly associated with financial distress, suggesting that SACCOs with narrower product portfolios face a higher risk of financial strain. Management quality also showed a significant positive relationship with financial distress, highlighting the role of managerial effectiveness in influencing institutional vulnerability. In contrast, cash availability exhibited a significant negative effect on financial distress, indicating that SACCOs with stronger liquidity positions are better insulated against financial instability. Taken together, the base model underscores the importance of product diversification, effective management practices, and sound liquidity management in enhancing the financial resilience of SACCOs.

When size of the firm was introduced as a moderating variable, the model's explanatory power improved substantially. The findings depicted that firm size had a very significant and positive impact on the financial distress, meaning that larger SACCOs faced higher baseline risks due to the complexity of their operations. The association between limited products and firm size had a significant and positive impact, indicating that the adverse effects of limited

product diversification were amplified in larger SACCOs. The interaction between cash availability and firm size had a positive but insignificant effect, while the interaction between management quality and firm size had no great or negative effect on financial distress. These results suggest that the size of the firm significantly moderates the effect of product limitations on financial distress but does not significantly moderate the effects of cash availability or management quality.

In contrast, the model incorporating organizational culture as a moderator showed limited influence. Culture had no significant and negative impact on financial distress, and all interaction terms between culture and the key determinants (limited products, management quality, and cash availability) were statistically insignificant. Specifically, limited products $\times$ culture had no significant and negative effect, management quality $\times$ culture had no significant and positive effect, and cash availability $\times$ culture had no significant and positive effect on financial distress. This indicates that variations in organizational culture across SACCOs do not significantly alter the effects of structural and operational determinants on financial distress.

Taken together, these research outcomes confirm that financial distress in DT-SACCOs is primarily driven by structural and operational factors. Firm size significantly moderates some of these relationships, particularly between product diversification and financial distress, whereas organizational culture does not exert a statistically significant moderating influence. The results highlight the importance of strategic product diversification, prudent liquidity management, and professional management practices as the main levers for enhancing financial stability among DT-SACCOs in Kenya.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.1 Introduction

This chapter comprehensively discusses and outlines the research outcomes in light of existing literature and theoretical frameworks, particularly Resource Dependence Theory (RDT) and Agency Theory. The chapter also outlines conclusions informed by the results, the study's limitations, and theoretical impacts, policy, and practice. Stakeholders in this study include DT SACCO managers, regulatory bodies (e.g., SASRA), policymakers, and SACCO members, whose interests lie in promoting sustainable SACCO operations, effective management, and member-focused services.

5.2 Summary of the Research Findings

The research study explored the drivers of financial distress in DT SACCOs in Kenya using a fixed effects regression model. The findings indicated that limited product offerings are a key contributor to financial distress, with more diverse financial products associated with better financial health. Management quality, reflected through the ability to mobilize deposits, positively affects the financial stability, suggesting that stronger management practices help reduce distress. In contrast, limited cash availability was associated with increased financial strain, indicating that maintaining excessive cash reserves may be financially detrimental for SACCOs. Additionally, the study found that both organizational culture and firm size significantly moderated the relationships between these disincentive-related factors and financial distress. Culture influenced how these factors impacted SACCO performance, while firm size explained notable differences in financial outcomes across institutions. Overall, the findings highlight that financial distress in DT SACCOs is driven by limited product variety, poor management practices, and liquidity constraints, and that these effects are further shaped by internal cultural dynamics and the size of the organization.

5.3 Discussion of the Findings

5.3.1 Limited Products and the Financial Distress of DT SACCOs

The finding that limited product offerings significantly contributed to financial distress in DT SACCOs aligns with previous studies emphasizing the value of product diversification as a stabilizing force in cooperative financial institutions (Ngugi & Jagongo, 2020; Wasike, 2018). SACCOs that limited their services to basic savings and loan products experienced heightened financial distress, while those that broadened their offerings, such as introducing

fixed deposits, insurance products, or investment vehicles, demonstrated improved financial performance. This reinforces the argument by Olando et al. (2013) that product diversification is not merely a competitive strategy but a critical resilience mechanism in a volatile financial environment. Nonetheless, as noted in earlier studies, not all forms of diversification are beneficial; poorly managed or misaligned product expansions can worsen financial instability (Mwarania, 2019). In this study, however, product expansion appeared to be largely beneficial, reinforcing the call for SACCOs to align their product portfolios with member needs and institutional capacity.

5.3.2 Management Quality On The Financial Distress of DT SACCOs

In contrast to some prior studies, the current findings indicate that management quality, represented by the deposit ratio, positively and significantly influenced financial stability. This suggests that SACCOs with stronger deposit mobilization capabilities, a traditional marker of sound management and institutional trust, are highly likely to exhibit lower financial distress. These outcomes contrast with earlier expectations that management quality might be non-significant or weakly associated with financial outcomes. It reinforces the position of Olando et al. (2012) and Mutua et al. (2017), who linked strong management practices with financial sustainability. The result affirms that, at least in this context, the deposit ratio is a meaningful proxy for managerial effectiveness, capturing a core dynamic between member confidence and SACCO performance.

5.3.3 Limited Cash Availability on The Financial Distress of DT SACCOs

The study also found that limited cash availability was negatively associated with financial health, confirming that higher cash reserve ratios correlate with increased financial distress. This inverse relationship underscores a critical liquidity management paradox: while cash buffers are essential for meeting short-term obligations, excessive cash holdings may indicate underutilized resources or poor asset allocation strategies. This finding aligns with the conclusions of Kivuvo and Olweny (2014) and Ademba (2010), who warned that liquidity mismanagement can directly lead to institutional instability. The results also support contingency theory by illustrating how financial performance is sensitive to the internal configuration of resources amid shifting economic conditions.

5.3.4 Moderating Effect Of Culture on The Relationship Between Drivers and Financial Distress of DT SACCOs

The moderating effect of culture, measured through long-term orientation, was found to be statistically insignificant, indicating that organizational culture did not meaningfully influence the relationship between disincentive-related factors and financial distress among SACCOs. This finding suggests that while cultural orientation is an important aspect of organizational identity, its role in moderating internal financial dynamics may be limited or context-dependent. In other words, variations in long-term cultural orientation did not significantly alter how disincentive-related factors impacted financial stability. The insignificance of this moderating effect implies that SACCOs' financial outcomes may be more directly driven by tangible operational and governance factors than by underlying cultural orientations. This outcome diverges from the theoretical expectations of Hofstede's (2001) Cultural Dimensions Theory and Resource Dependence Theory (Pfeffer & Salancik, 1978), both of which posit that culture and external dependence jointly shape organizational responses to internal pressures. Instead, the current findings suggest that culture's influence may be too subtle to exert a measurable moderating effect in the presence of strong structural or policy-driven factors.

5.3.5 Moderating Effect of Firm Size on The Relationship Between Drivers and Financial Distress of DT SACCOs

Firm size was also evident that it significantly moderates the existing relationship between product offerings and financial distress, as well as between liquidity (cash reserve ratio) and financial distress. These results support the contingency theory proposition that organizational size shapes the capacity to absorb shocks and leverage strategic resources (Donaldson, 2001). Larger SACCOs appeared to better utilize their diversified portfolios and liquidity positions to mitigate distress, possibly due to economies of scale, broader member bases, and more advanced financial infrastructure. However, the absence of a significant moderation impact of firm size on the deposit ratio suggests that size advantages may not uniformly translate across all operational dimensions.

The study revealed the critical roles of product diversification, management quality, and liquidity in ascertaining the financial stability of DT SACCOs. Additionally, the moderating roles of culture and firm size emphasize the contextual intricacies of SACCO operations and reinforce the utility of integrating both resource dependence and contingency

theory perspectives. Nonetheless, the study also reveals the need for more precise operational definitions of key constructs like culture and management quality to better capture their effects in diverse institutional environments.

The positive relationship between product offerings and financial stability validates RDT (Pfeffer & Salancik, 1978), which argues that organizations rely on external resources and must adapt to reduce dependence and uncertainty. SACCOs that expanded their product range—beyond core savings and loans—reduced dependency on limited revenue streams, enhancing financial resilience. This supports literature that advocates for diversification as a strategic buffer against environmental volatility (Ngugi & Jagongo, 2020).

The finding that higher deposit mobilization (deposit ratio) reflects reduced financial distress supports Agency Theory, which emphasizes the role of management in safeguarding member interests. A high deposit ratio indicates trust in management and effective agency relationships. This contrasts with earlier skepticism in the literature about deposit ratio's predictive validity, but reinforces Olando *et al.* (2012) in linking good management with financial sustainability. The results suggest that, in SACCOs, the agency problem may be mitigated through transparent and member-aligned governance practices.

The outcomes of this research study largely validated the propositions of Resource Dependence Theory (RDT) by demonstrating that product diversification reduced financial distress, consistent with the idea that organizations must minimize reliance on narrow resource streams to enhance stability. Similarly, the moderating roles of organizational culture and firm size affirmed RDT's view that internal factors influence how external dependencies are managed. However, the negative relationship between high cash reserves and financial health introduced a refinement, showing that not all resource accumulation is beneficial unless resources are strategically deployed.

In relation to Agency Theory (AT), the study revealed that effective management, proxied by deposit mobilization, reduced financial distress by strengthening member trust and aligning managerial actions with cooperative objectives. The moderating role of culture further reinforced AT's argument that governance mechanisms and aligned incentives reduce agency costs. Nonetheless, the absence of a significant firm size effect on management quality challenges AT's prediction that larger organizations face greater monitoring difficulties.

5.4 Conclusion

This research study researched on the drivers of financial distress in Kenyan DT SACCOs, examining the effects of limited product offerings, management quality (proxied by deposit ratio), and cash availability, alongside the moderating influences of organizational culture and firm size.

The findings revealed that limited product offerings and poor management quality significantly contribute to financial distress, reaffirming the strategic value of product diversification and deposit mobilization in sustaining SACCO operations.

Additionally, cash availability emerged as a strong predictor of financial resilience, emphasizing the necessity of robust liquidity management frameworks.

Notably, organizational culture, as operationalized through long-term orientation, did not exhibit a significant moderating effect on these relationships, challenging prior theoretical assumptions and indicating potential limitations in the measurement approach or deeper contextual complexities.

In contrast, firm size was found to significantly moderate the relationship between both product offerings and liquidity with financial distress, underscoring the structural advantages larger SACCOs hold in absorbing financial shocks and leveraging economies of scale.

These findings carry important implications for practice and policy. They call for SACCO leaders to innovate beyond traditional service models, for regulators to tailor oversight and support based on institutional size and capacity, and for researchers to refine conceptualizations of management and culture within SACCO environments. By advancing understanding of the structural and operational vulnerabilities that drive financial distress, this study provides a foundation for more responsive and context-sensitive interventions in Kenya's cooperative financial sector.

Future research should consider longitudinal and comparative approaches, including mixed-method studies, to deepen insights into causal dynamics and unearth the organizational behaviors underlying financial instability. In doing so, scholars and practitioners alike can better equip SACCOs to thrive amid growing member expectations, regulatory demands, and economic volatility.

5.5 Recommendations of the Research Study

5.5.1 Recommendations for SACCO Leadership

The negative effect of limited product offerings underscores the need for SACCO leaders to prioritize product innovation and diversification. Leaders should undertake regular market analysis to design tailored financial products that reflect the evolving preferences of their membership base. Product diversification will not only strengthen financial performance but also increase member retention and competitiveness in a crowded financial sector. Furthermore, management should reinforce deposit mobilization strategies by investing in member trust, transparent communication, and governance reforms that enhance confidence in leadership.

5.5.2 Recommendations for Regulators and Policymakers

For regulators such as SASRA, the evidence supports promoting product diversification through regulatory flexibility and performance-linked incentives. Technical support for innovation should also be extended to smaller SACCOs, which often lack the capacity to diversify. Since the deposit ratio was found to be a significant predictor of resilience, regulators should continue monitoring deposit mobilization metrics while broadening the definition of management quality to include indicators such as leadership training, governance transparency, and decision-making structures.

On liquidity, regulators should encourage SACCOs to maintain prudent liquidity thresholds, establish emergency reserves, and seek strategic partnerships with stable financial institutions for liquidity support. Policymakers should also support smaller SACCOs through federation models or shared service platforms that pool technical and financial resources. Importantly, cultural orientation was found to moderate outcomes, which underpins the need for context based sensitive governance policies that account for local values and operational norms, rather than applying uniform regulatory frameworks.

5.5.3 Recommendations for Theory

The research study's outcomes provide meaningful contributions to theory. For Resource Dependence Theory, the validation of product diversification as a buffer against financial distress confirms its core premise that organizations must reduce reliance on narrow resource streams. However, the finding that high liquidity ratios increased financial distress suggests a refinement: resource accumulation is not always beneficial unless strategically utilized.

For Agency Theory, the significant role of deposit mobilization as a proxy for management quality validates the idea that aligned incentives and strong governance reduce financial distress. Yet, the lack of a moderating impact of firm size on management quality challenges the classical view that larger organizations inherently face greater monitoring difficulties. This nuance suggests that cooperative ownership structures and cultural orientation may mitigate agency risks more effectively than previously assumed. Future theoretical work should thus consider how contextual factors (such as cooperative culture and governance models) reshape the predictive power of these foundational theories.

5.6 Limitations of the Study

This research study faced various challenges that may affect its interpretation and generalizability of its outcomes. First, the exclusive reliance data from secondary sources from the audited financial reports and regulatory filings may limit the depth and context of analysis, as such data do not capture internal operational challenges, member dynamics, or informal practices influencing financial distress. Second, while the longitudinal design enhances the robustness of trend analysis, it also exposes the study to inconsistencies in data reporting and quality standards across SACCOs and years. Incomplete or inconsistent data may introduce bias despite efforts to ensure accuracy. Third, the use of stratified random sampling based on firm size excludes SACCOs without complete data or those deregistered during the study period, potentially omitting important distress indicators. Finally, the quantitative nature of the study limits the ability to explore contextual or cultural nuances that may influence SACCO performance. These limitations suggest that while the study provides objective insights into disincentive-related determinants, future research should consider mixed-method approaches to incorporate experiential and qualitative perspectives.

5.7 Areas of Further Research

This research was onlcy confined to financial distress determinants in Kenyan DT SACCOs and to assess how culture and firm size moderate these relationships. Having been limited to Kenyan DT SACCOs the study results cannot however be generalizable to other financial institutions in Kenya like micro finance institutions, commercial banks and insurance companies. This study therefore recommends further studies focusing on other financial institutions in Kenya like, micro finance institutions, commercial banks and insurance companies.

5.8 Chapter Summary

This chapter presented the conclusion, recommendations, and limitations of the study while also identifying directions for future research. The study established that limited product offerings, poor management quality (proxied by the deposit ratio), and inadequate cash availability are significant determinants of financial distress in Kenyan DT SACCOs. The findings further revealed that while organizational culture did not significantly moderate these relationships, firm size played a crucial role in shaping resilience, with larger SACCOs better able to withstand financial shocks.

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APPENDIX A: DATA COLLECTION SHEET

	Financial Distress (Altman Z-Score)	Limited Product Offerings (Number of product types)	Management Quality (Total deposits ratio)	Cash Availability (Cash reserve ratio)	Culture (masculinity index)	Firm Size (Assets)
DT SACCO 1						
Year 1						
Year 2						
Year 3						
Year 4						
Year 5						
Year 6						
DT SACCO 2						
Year 1						
Year 2						
Year 3						
Year 4						
Year 5						
Year 6						
DT SACCO 3						
Year 1						
Year 2						
Year 3						
Year 4						
Year 5						
Year 6						

26th March 2025

Mr Nyandieka Samuel,
samuel.nyamora@strathmore.edu

Dear Mr Nyandieka,

RE: Disincentive-Related Determinants of Financial Distress in Deposit-Taking Savings and Cooperatives in Nairobi, Kenya: Moderated by Culture and Firm Size

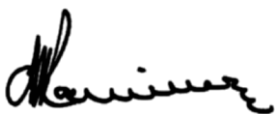
This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** proposal. Your application reference number is **SU-ISERC2737/25**. The approval period is from **26th March 2025 to 25th March 2026**.

This approval is subject to compliance with the following requirements:

- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
- iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
- iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU- ISERC within 72 hours.
- v. Clearance for the export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days of completion of the study to SU- ISERC.

Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke/> and obtain other clearances needed.

Yours sincerely,



Mr Ambrose Rachier,
Chairperson; SU-ISERC