SACCO SOCIETIES REGULATORY AUTHORITY PRUDENTIAL REGULATIONS AND FINANCIAL PERFROMANCE OF DEPOSIT TAKING SAVING AND CREDIT CO-OPERATIVE SOCIETIES IN KENYA

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DECLARATION

This thesis is my original work and has not been presented for award of a degree in any other university.

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DEDICATION

I would want to express my heartfelt gratitude to my family, whose unwavering love and support have served as a beacon of guidance throughout my academic pursuit.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

ATM - Automated Teller Machine

CAMEL - Capital Adequacy, Asset Quality, Management, Earnings, and Liquidity

CBK - Central Bank of Kenya

DTS - Deposit Taking SACCO

EAC - East African Community

GOK - Government of Kenya

KUSCCO - Kenya Union of Savings & Credit Co-operatives

NACOSTI - National Commission for Science, Technology, and Innovation

NIM - Net Interest Margin

NPL - Non-Performing Loan

NSE - Nairobi Securities Exchange

ROA - Return on Assets

ROE - Return on Equity

SACCO - Savings and Credit Cooperative Organization

SASRA - SACCO Societies Regulatory Authority

US - United States

USD - United States Dollar

VIF - Variance Inflation Factor

WOCCU - World Council of Credit Unions

OPERATIONAL DEFINITION OF TERMS

Asset Quality: Measure of credit risk associated with loans and investments made by Deposit Taking SACCOs, as regulated by SASRA.

Capital Adequacy: Level of funds in form of capital that Deposit Taking SACCOs must maintain to absorb potential losses and ensure their financial stability, as mandated by SASRA regulations.

Core Capital: Primary and most stable form of capital held by Deposit Taking SACCOs, which includes retained earnings and member contributions, as defined by SASRA regulations.

Compliance: The act of adhering to the prudential regulations set by SASRA to ensure financial stability and performance of Deposit Taking SACCOs.

Co-operative: This is a self-governing group of individuals who voluntarily come together with an intention of solving their social and economic needs through a democratically managed enterprise.

Deposit Taking SACCOs: SACCOs authorized by SASRA to receive deposits and offer other financial services to the public.

Dividend Pay-out: Portion of a Deposit Taking SACCOs profits distributed to its members as a return on their investments.

Front Office Service Activity: A Sacco product that offers basic banking services like those offered by commercial banks.

Financial Performance: Measure of a Deposit Taking SACCOs financial health, including profitability, market share, customer base, liquidity, and efficiency. Measured using returns on assets.

Interest on Deposits: Amount of money paid by Deposit Taking SACCOs to their members for holding their savings in the organization.

Institutional Capital: A portion of a Deposit Taking SACCOs capital that is not contributed by members but is generated through retained earnings and other sources.

Liquidity Ratio: Measure of a Deposit Taking SACCOs ability to meet its short-term financial obligations.

Non-deposit Taking SACCOs: It is a Co-operative Society that receives savings from members which are only refundable when one leaves the SACCO.

Prudential Regulations: The set of rules and guidelines established by SASRA to ensure the financial stability, soundness, and performance of Deposit Taking SACCOs in Kenya.

Return on Investments: The profitability ratio that measures the efficiency of a Deposit Taking SACCOs investments in generating income.

Return on Assets:	The profitability ratio that measures how effectively a Deposit Taking SACCOs uses its assets to generate income.
SACCO:	Financial institution under the Co-operative Society Act of 1997 formed with an objective of pooling and mobilizing savings from its own members and offering loans to them at a low rate.
SASRA:	The Sacco Societies Regulatory Authority, a government agency in Kenya responsible for regulating and supervising Deposit Taking SACCOs to ensure their financial stability and protect member interests.

ABSTRACT

Financial performance of Deposit Taking Savings and Credit Co-operative Societies in Kenya has been a source of concern, as evidenced by declining indicators over time. According to Saccos Societies Regulatory Authority, there has been a significant decline in profitability, as evidenced by a decrease in the Return on Assets from 2.65% in 2020 to 1.59% in 2021. The general objective of this study was to investigate the effects of Saccos Societies Regulatory Authority prudential regulations on financial performance of Deposit Taking Savings and Credit Co-operative Societies in Kenya. The specific objectives of the study were to examine the effects of liquidity, capital adequacy, and asset quality regulations on the financial performance of Deposit Taking Savings and Credit Co-operatives in Kenya. The principles of public interest theory, buffer theory of capital adequacy, and agency theory served as the foundation for this study. The research used correlational research design and positivist philosophy. The population of the study was 175 licenced Deposit Taking Savings and Credit Co-operatives. Secondary data was used which was analysed using descriptive and inferential statistics. The statistical software Stata was used to conduct the analysis. A multiple linear regression model was used to forecast financial performance. Diagnostic tests were performed to ensure that the linear regression model assumptions were not violated. Liquidity has a negative correlation of (-0.0497) with Return on Assets, according to correlation analysis. Capital adequacy, on the other hand, showed a positive correlation of (0.6710) with Return on Assets. Similarly, asset quality had a positive correlation with Return on Assets of (0.5663). Panel regression results confirmed the importance of capital adequacy and asset quality in driving financial performance, as evidenced by highly significant coefficients of (0.7140 and 0.2087, respectively) with p-values of 0.0000. The liquidity coefficient, on the other hand, was found to be -0.0008 with a p-value of 0.7380, indicating that changes in liquidity have a negligible impact on Return on Assets. The study found that liquidity, capital adequacy, and asset quality explain 62.65% of the variation in financial performance (Return on Assets). According to the study, Deposit Taking Savings, and Credit Co-operative Societies should take a balanced approach to liquidity management to optimise financial resources and potentially increase returns. Furthermore, Savings and Credit Co-operatives Societies should prioritise in maintaining a strong capital base to improve financial stability and capitalise on profitable opportunities. Compliance with capital adequacy requirements, as well as collaboration with regulatory bodies, are essential for long-term growth. Furthermore, to maintain a healthy loan portfolio and minimise credit losses, effective credit risk management should be prioritised. Savings and Credit Co-operatives' long-term sustainability and financial performance will be ensured by regular reviews and updates to credit policies and risk management practises. Implementing these recommendations can significantly improve Savings and Credit Co-operatives Societies overall stability and financial performance. The variation in financial performance for this Savings and Credit Co-operatives is explained by liquidity, capital adequacy, and asset quality, which account for 62.65% of the variation. Additional factors, such as external influences and governance practises, should be investigated further. Comparative research with other financial institutions can provide useful information.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Savings and credit co-operative societies are financial intermediary enterprises established by people with common goals of mobilizing savings and offering credit facilities to their members. A co-operative is an organization formed by members whose primary objective is to support their economic, social and cultural demands in a regulated organization (WOCCU, 2015). Globally Co-operative sector in developed countries is a key pillar that highly contributes to sustainable economic development goals and stable quality employment. Co-operatives provide jobs opportunities to 280million people globally representing 10% of the world employed population (World Co-operative monitor,2020). Statistics show that there are 89,026 Credit Unions (SACCOs) across 6 continents in the 117 countries. These Credit Unions have total savings and deposits of US Dollars 1.7 trillion, assets base of US Dollars 2.115 trillion, loan book of US Dollars 1.5trillion with 260,164,742 members and estimated global turnover of US Dollars 2.2 trillion (WOCCU, 2017).

In Africa WOCCU study shows that as of 31st December 2017, SACCOs had 29.6million members, assets base of USD 9.1billion, loan portfolio of USD 9 billion, savings of 7.9 billion USD and penetration rate of 9.25%. In Kenya, co-operatives are broadly categorized into two, financial Co-operatives otherwise known as SACCOs and non-financial Co-operatives. The objective of SACCOs is savings mobilization and offering affordable credit to their members (Mirie, 2014). Co-operatives history date back in year 1852 in Germany whereby two pilot projects were merged to a Credit Union (Ondieki, Okioga, Okwena & Onsase, 2013). Raiffeisen in 1864 established the

first Credit Union to serve financial demands of local communities who were unbanked due to low seasonal cash flows and little human resources (WOCCU, 2015). From then, there has been expeditious development of Credit Unions worldwide based on Raiffeisen organizational model (Diekmann, 2012).

In Africa, SACCOs have dominated the financial sector in 27 countries including Kenya, Ghana, Zambia, Ethiopia, Tanzania, and Uganda. SACCOs were first established in English speaking nations, with Ghana leading the pack as Reverend John McNulty of Jirapa Town mobilising residents in 1955 to help them achieve their financial goals. Rather than focusing on addressing their financial needs on individual level, he suggested that SACCO was the most efficient way to mobilize their deposits and savings and in return provide them with loans. With the skills and experience that he gained in Canada, he convinced 60 volunteers and took them through rigorous training before forming one of the most successful SACCOs in the continent. Other countries followed his footsteps, and this led to a proliferation of SACCOs as seen today (Musah & Kong,2019).

In East Africa, Co-operative societies have gained ground in the past decade following the passing of EAC Co-operative Societies Bill 2014 as a legal framework that oversees SACCOs' functions in the region (Oliech & Owoko,2018). This was in line to EAC treaty as well as Kenyan National Legislations on Co-operatives that advocates for strengthening the private sector (Altman,2017). The bill ratifies that all states in EAC bear the responsibility of efficiently using their available resources to develop organisations capacity in the private sector to take active part in different economic activities. In addition, the bill acknowledges that state parties play a significant role in

taking part in coming up with national legislations that promote the day-to-day operations of SACCOs in the region (Barus, Muturi, Kibati & Koima,2017).

In Kenya SACCOs are the fastest growing within the Co-operatives accounting for over 50 per cent of the registered Co-operatives. There are over 14,000 registered Co-operatives,5,000 are SACCOs with 175 being licensed as deposit taking (SASRA, 2020). SACCOs have mobilized savings of over kshs.430billion accounting for 33% of national savings and 40% of gross domestic product supporting 63 percent of Kenyan residents through direct, indirect employment and financing small businesses. Further SACCOs have advanced loans to a tune of kshs.473billion and assets base of kshs.627billion (SASRA,2020).

These huge sums of savings, loans and assets should be protected by a formal regulatory framework which safeguards the interest of stakeholders from financial and operational risks (SASRA,2016). SACCOs were registered and managed by the Ministry of Co-operatives which lacked specific regulatory framework to differentiate SACCOs and other Co-operative Societies (GOK ,2008). In Kenya first Co-operatives were established by European settlers in 1908 with the aim to provide dairy and other agricultural support services to the white settlers. After independence, many people started forming and joining different types of Co-operatives, which instigated the formulation of Co-operative policies through sessional paper No.10 of 1965 (Kavulya, Muturi, Rotich & Ogollah,2018).

These policies were put in place to enable Co-operatives to address key issues surrounding their operations by developing their managerial and technical skills with the aim of improving their performance and expanding their presence in potential markets. In 1966 Kenyan government enacted the Co-operative Societies Act, followed

by numerous amendments to the Co-operative development policy (Kiyieka & Muturi,2018). These laws liberalized the economic environment of Co-operatives as the government became actively involved especially through Sessional paper No.6 of 1997.

Early 1990 Kenya experienced economic crisis which forced banks to increase customers minimum operating balances to sustain their business. This forced many low- and middle-class-income earners unable to operate bank accounts which began the evolution of SACCOs (KUSCCO, 2009). SACCOs became popular among this class of people who could not be able to maintain commercial banks requirements. In response to commercial banks demands, SACCOs introduced front office services activities which are quasi banking services that offer competitive services opening a new dawn to SACCOs business (SASRA,2014). Since then, SACCOs have witnessed rapid growth which continued to enormously contribute towards social economic welfare and are now adopted by majority of Kenyans as different model of conducting business (SASRA, 2014). Despite this tremendous growth, SACCOs lacked effective regulatory oversight and supervision framework to bring trust in their members (Ahmed, 2009). This made SACCOs to split into small uneconomical units, failed to hold elections, grossly mismanage, and engage in unauthorized investments (Olando, 2012).

To address these challenges, the government introduced SACCO Act 2008 which created SACCO Societies Regulatory Authority (SASRA) with sole directive of regulating, licensing, and overseeing Deposit Taking Saccos in Kenya (SASRA,2012). SASRA objective was to protect members funds and resources by ensuring there is good management and governance. This was to raise public confidence towards

SACCOs, spur economic growth by mobilizing domestic savings, modernizing the sector making it pertinent to the requirements of Kenyan and enlarge its reach while merging it into formal financial sector (Ademba ,2011). In 2010 SACCO Societies prudential regulations were gazetted creating the minimum operating requirements of Deposit Taking SACCOs (Procasur Africa,2012).

Key prudential regulations standard were capital adequacy ratios which indicate capital ratio that SACCOs need to maintain, nature of investments SACCOs can undertake, procedural policies, credit management, asset quality and corporate governance by making sure elected board members are qualified and stick to best practices (SASRA,2013). The regulations came into force in June 2010 where 215 SACCOs that were deposit taking were given one year to comply. A total of 135 SACCOs met the requirements and were given licenses while 80 SACCOs did not comply and were given 4 years to comply (SASRA, 2012). SACCO financial performance is determined by capital adequacy, size of loan book, assets quality, liquidity levels, management efficiency and macroeconomic factors like GDP and interest rates (SASRA, 2013).

SACCOs financial performance is measured by assessing revenues growth from interest on loans, investment incomes, reduced loan provisions, managed costs, and growth of capital. Increased income accompanied with decrease in costs will lead to increase of net worth to members that results in high returns in form of dividends and interest on deposits. SACCOs with a solid financial performance will meet members' demands for loans, modify their products to draw in more members and above all to have a sound capital adequacy and liquidity (SASRA, 2014).

To measure financial performance SASRA adopted CAMEL model rating tool. This is an off-site evaluation tool used to establish SACCOs that are financially vulnerable and

require closer supervision. SACCOs are given a rating of 1 to 5,1 being stable,2 or 3 average,4 or 5 below average and need close monitoring to ensure their viability (SASRA,2012). CAMEL model is mostly used as it focuses on capital, quality of assets, operational efficiency, liquidity, and sound management practices which are key prudential regulations standards. This study adopted asset quality, liquidity, and capital adequacy as key determinants of performance.

Capital adequacy, liquidity and asset quality were the independent factors. Different theories were used to study these variables. Capital adequacy used buffer theory, liquidity was evaluated using the ratios provided by the regulator. Asset quality measures credit management practices of the SACCOs and a relatively new way of assessing loan quality. It was measured through allowance for loan loss to total assets. The loan provision amount is an expense that affects comprehensive income statement and reduces profitability. It also affects financial position statement by reducing SACCOs assets quality as loans reduces by the same amount of provision. Financial performance, which was dependent variable, was evaluated by return on assets that measures firm efficiency in profit generating using its own assets. Moderating variable was prudential regulations established by the government through relevant legislation, guidelines and circulars issued time to time.

As of 31st December 2020, out of a total of 215 DTSs, 175 DTSs met the minimum licensing requirements and 40 DTSs failed to meet these requirements and had their license revoked and suspended. The main reasons were severe undercapitalization, inadequate capability to achieve depositors and third parties' obligations, poor sustainable external borrowing and acute liquidity which negatively affected their financial performance. These SACCOs were not granted licenses but directed to cease

taking deposits and revert to non-deposit taking business under Commissioner of Co-operatives (SASRA, 2020).

Local studies on SACCOs include Mwalonza (2014), performed research on the influence of corporate governance on performance of teachers based SACCOs, Clement et al (2013) studied on SACCOs contribution on financial stewardship growth, Makori et al (2013),compliance obstacles encountered by Deposit taking SACCOs in Kisii County, Chonga (2012), factors affecting growth of SACCOs in Mombasa County and Olando (2012), SACCOs challenges in promoting quality financial management on capital structure and loans delinquency. None of these studies covered SASRA prudential regulations and financial performance regarding capital adequacy, liquidity, and asset quality. This research was filling the knowledge gaps left by previous studies by answering an important ingredient if government SASRA prudential regulations are beneficial or not to the SACCOs which was not adequately addressed by previous studies on Deposit Taking SACCOs.

1.1.1 SASRA Prudential Regulations

SASRA established prudential regulations for Deposit-Taking SACCOs in June 2010 with the key aim of enhancing transparency while instilling accountability in the fast-growing SACCO subsector (SASRA, 2022). According to Mutinda (2019), the tremendous growth of SACCOs coupled with failures prompted the government to enact legislations to license, regulate and supervise operations as outlined in the SACCO Societies Act 2008. Prudential regulations guide the operations of SACCOs and minimize risks that affect safety of members funds. Any operational Deposit Taking SACCO must meet minimum requirements per prudential guidelines. Feather & Meme (2019) state that the components of SASRA prudential regulations include

capital adequacy, asset quality, liquidity, loan loss provisioning, risks management and investments (Buluma, Kung'u & Mungai, 2017).

SACCO Societies Act 2008, along with its prudential regulations provides the minimum core capital required for a Deposit Taking SACCOs as kshs. 10 million, 10 per cent of Core capital to total assets,8 per cent of Core capital to deposits and 8 per cent institutional capital to total assets (SASRA,2015). Capital increases SACCO liquidity that is a buffer in times of adverse situations as deposits are prone to bank runs. Further it cushions a SACCO against operational, market and credit risks as it absorbs losses and protects debtors. It has a relationship on SACCO profits as it is a key determinant in expansion and investments which bring more revenue to the SACCO (SASRA,2014).

Liquidity indicates capability of a SACCO to handle short term commitment and immediate cash demands (Mutitu, 2017). Prudential regulation requires SACCOs to have 15% of their savings and deposits in liquid or near liquid form. It is measured by liquidity ratio and liquidity reserve. Liquidity ratio equals to short term assets divide by deposits and short-term liabilities while liquidity reserve is the cash available for immediate use. On every 15th of the following month all licensed DTSs are required to file their liquidity statement with SASRA to monitor and track their cash position (Wambua, Waweru & Kihoro, 2021).

Asset quality includes loans as the major single asset, investments, current and fixed assets. Loans generate most incomes for a SACCO. DTSs must have in place well defined loan appraisal mechanisms, approval limits and disbursements that are in line to the best industrial standards and strategies as outlined by the SACCO approved credit policy as prescribed in the regulations (Njenga & Jagongo, 2019).Deposit Taking

SACCOs are supposed to observe loan loss provisioning requirements that categories loans into five classes that provide loan allowance as 1% for performing loans within 30 days, 5% for loans classified as watch loans between 30-60 days of their repayment period, 25% for loans classified as sub-standard whose repayment days are between 61-180 days, 50% for loans classified as doubtful whose repayment days are between 181-360 days and 100% for all loans classified as loss whose repayment days are over 361 days (Barus, Muturi, Kibati & Koima, 2017).

Non-performing loans (NPLs) pose the biggest loss to any SACCO. SACCOs must work hard to maintain their non-performing loans at a lower level. Therefore, the lower the NPLs the healthier and quality the portfolio of the SACCO (Ongore & Kusa, 2013). Loan quality has a direct effect on SACCO profitability. The asset quality is measured using portfolio at risk and total loan delinquency. The lower the portfolio at risk and delinquency the good quality are the assets (SASRA,2012).

The investments regulation requires SACCOs not to invest in property or equipment and non-earning assets more than 10 percent of total assets of which buildings and land should not be more than 5 percent except where a waiver has been granted from the authority (GOK,2008). Corporate governance is the ways organizations are governed and managed. A SACCO must have elected Board of Directors and senior management who are vetted by SASRA. The board responsibility is to establish appropriate SACCO policies and decision making. There is clear separation of duties of the management and board to ensure accountability and transparency. It is more than ten years since SASRA introduced Deposit Taking SACCOs prudential regulations but the effect of these prudential regulations on SACCOs has not been established.

1.1.2 Financial Performance of Deposit Taking SACCOs

Kaunda, Achoki and Shibutse (2019) define financial performance as an efficient and effective allocation of available resources for optimal returns. Institutional financial performance is essential as directors and management are duty bound for sound financial decisions that give maximum return to investors and guarantee the going concern of the institution are not at stake. Wambua, Waweru & Kihoro (2021) mentioned that affordable, reliable, low cost of financial facilities like loans, assurance, safety of members savings and investment of SACCOs in profitable areas is the interest of many members of SACCOs. Proper SACCOs management will reduce operating costs and make sure there is optimal return on investments. The standards of evaluating performance of DTS as outlined by the World Council of Credit Union include asset base, corporate governance, capital level, loan book performance, staff quality, and industry regulations. Researchers have utilised various ways to measure financial performance of SACCOS, such as financial ratios and cash flow statements (Masika & Simiyu (2019).

Financial ratios are classified into turnover, liquidity, solvency, valuation, and profitability ratios. These ratios have significant role in measuring performance as they help firm managers to quickly interpret risks, profitable areas, and insolvency status. Ratios are easier to calculate and understand. Aghabarari, Guettler, Naeem Van Doornik (2021) state that the financial performance of Deposit Taking SACCOs combines different activities in the firms with an objective of wealth creation. As presented by Almagtome & Abbas (2020), the common measure is operating income, revenue before interest and tax and net asset value which go a long way in highlighting several facts pertaining to corporate efficiency, financial strength, managerial

performance, and the firm's credit worthiness. Eventually, performance of Deposit Taking SACCOs points towards extent to which firm's operational efficiency reduces poverty and addresses unemployment (Mbugua & Kinyua, 2020).

1.1.3 Deposit Taking SACCOs In Kenya

Deposit taking SACCOs are financial intermediary institutions authorized to receive deposits and offer other financial services to members including withdrawable savings accounts services (Mbugua & Kinyua, 2020). This study targeted 175 DTSs in Kenya as gazetted by SASRA on 31st December 2021 as shown in Appendix V (SASRA, 2022). Deposit Taking SACCOs also offer basic banking services, such as demand deposits, short-term loans, mobile banking, automatic teller machines (ATMs) among others. DTS are allowed to offer easy-to-withdraw savings account services through front office savings activities. According to Odero, Egessa & Oseno (2020), DTS have greatly impacted economy as they contribute to more than 45% of the gross domestic product. Non-deposit taking SACCOs accept savings which are only refundable when members leave the SACCO because they are used as collateral for securing credit facilities. Since members of these types of SACCOs do not hold accounts, the institutions are not allowed to offer front office services (Mutitu, 2017).

SASRA is the sole licensing authority for DTS as mandated by the SACCOs societies Act 2008 and prudential regulations 2010. The regulatory authority ensures that the DTS provide both easy-to-withdraw and non-withdrawable deposits for all members. According to Odero, Egessa & Oseno (2020), SACCO members can use the non-withdrawable deposits as collateral for securing credit facilities and they can withdraw their funds only after they terminate their membership. Non-deposit taking SACCOs

are not licensed to receive withdrawable deposits or present themselves to the public as deposit-taking institutions (Njenga & Jagongo, 2019).

1.2. Statement of the problem

Deposit taking SACCOs in Kenya constitutes a major portfolio of the savings and credit cooperatives. Over 78% of all deposits and assets in SACCOs are held by these SACCOs. They are major actors in the industry with deeper and wide-ranging outreach than any other type of financial institution in the country. They play vital roles in financial intermediation and wealth creation (Kinyua,2014) and in economic and social development. Despite this significant role in the economy the sector faces several challenges including financial distress which has threated sustainability and growth of SACCOs such that they have not been able to absorb their operational losses (Kivuvo & Olweny,2014). Consequently, these losses get absorbed by members' savings and share capital which leads to impairment of their investment. If these myriad challenges are left unresolved it can lead to failure of the sector with crippling consequences for the economy. It is therefore important for the sector to be kept under watch and supervision to ensure such occurrences are detected early and dealt with immediately.

Kiaritha (2015) in his study found high rates of failure at 51% of SACCOs in Kenya. Some of the DTs were unable to achieve, maintain minimum licensing requirements and comply with strict adherence to these prescribed prudential regulations standards. In 2015 five (5) licensed Deposit taking SACCOs had their operating licenses revoked, in 2016 two (2), in 2017 two (2), in 2018 two (2), in 2019 three (3) while four (4) licenses were revoked in 2021 (SASRA,2022) for failure to maintain the minimum required prudential regulations standard and were forced to return to non-deposit taking business.

Deposit Taking SACCOs financial performance in Kenya should be scrutinized as evidenced by the declining indicators over the years. According to SASRA report, the Return on Assets (ROA) decreased from 2.65% in 2020 to 1.59% in 2021, indicating a significant drop in profitability (SASRA, 2022). Further capital adequacy, measured by Institutional Capital/Total Assets, declined from 11.39% in 2020 to 9.15% in 2021, reflecting a reduction in the capacity of these institutions to absorb potential losses (SASRA, 2022). The decline in Net Income after Tax is also evident, with a decrease from 17.59% in 2020 to 11.20% in 2021, further highlighting the financial challenges faced by these co-operatives (SASRA, 2022). These statistics indicate a worrisome trend in the financial performance of these SACCOs, calling for comprehensive investigation into factors contributing to this decline and the potential remedies to improve financial stability and sustainability.

The decline in financial performance indicators, such as Return on Assets (ROA), capital adequacy ratios, and Net Income after Tax, for Deposit-Taking SACCOs (DTSs) and credit cooperatives in Kenya during 2020 and 2021 could have also been attributed to the COVID-19 pandemic. The pandemic disrupted economic activities, leading to job losses, reduced incomes, and decreased consumer spending, which likely impacted the operations and financial health of these institutions. DTSs and credit cooperatives heavily rely on member contributions and loan repayments, both of which may have been adversely affected by the economic downturn caused by the pandemic. Also, the pandemic may have necessitated additional provisions for loan losses due to financial distress faced by borrowers, thereby impacting the asset quality and profitability of these institutions. The implementation of COVID-19 containment measures, such as lockdowns and movement restrictions, could have also hindered the ability of DTSs

and credit cooperatives to conduct business as usual, further exacerbating their financial challenges during this period.

Based on the reviewed studies, none of them, especially in Kenya, have directly explored the influence of liquidity, capital adequacy, and asset quality on the financial performance of DTSs. Muriithi and Waweru (2017) investigated the degree to which liquidity risk influences financial performance of the 43 Commercial banks. Onyango (2018) states that the two main functions of capital are that it works as an incentives function and a risk-sharing function. Since most liabilities of SACCOs are debt-like in nature, SACCOs use capital adequacy as a policy tool that allows them to take more risks so that they don't shift them to depositors.

Ngeno (2019) examined how capital adequacy framework is associated with Kenyan DTS financial performance. Magomere and Otinga (2019) investigated factors that determine microfinance institutions' (MFIs) financial performance in the region. Musyoka (2017) explored the influence of capital adequacy on financial performance of financial institutions. A study carried out by Kamande (2017) investigated degree to which particular aspects affected financial performance of Kenyan financial institutions within a term of 5 years. Kamau (2017) investigated the extent to which regulations affected the SACCOs' financial performance in Eldoret, Kenya.

To examine this gap in literature and gain deeper understanding, further research is needed. Hence, conducting current study was worthy of policy formulation and bridging the existing knowledge gap. The findings from the current research can serve as a basis for policymakers, regulators, and SACCO industry to optimize financial management strategies and promote greater financial stability and sustainability for these co-operatives. Moreover, the study can act as foundation to future researchers to

delve deeper into the intricacies of financial performance analysis within the SACCO sector and explore other potential factors that may influence their success in the dynamic financial landscape of Kenya.

1.3 Objectives of the Study

1.3.1 General Objective of the Study

To investigate the effects of SASRA prudential regulations on financial performance of Deposit Taking SACCOs in Kenya.

1.3.2 Specific Objectives

1. To establish effect of liquidity on financial performance of Deposit Taking SACCOs in Kenya.
2. To explore effect of capital adequacy on financial performance of Deposit Taking SACCOs in Kenya.
3. To analyse effect of asset quality on financial performance of Deposit Taking SACCOs in Kenya.
4. To examine if the moderating effect of SASRA Prudential regulations had any impact on the relationship between liquidity, capital adequacy and asset quality on financial performance of Deposit Taking SACCOs in Kenya.

1.4 Hypotheses

This research will test the following hypotheses.

1. **$H0_1$:** Liquidity does not have a significant impact on financial performance of Deposit Taking SACCOs in Kenya.

2. **$H0_2$:** Capital adequacy does not have a significant impact on financial performance of Deposit Taking SACCOs in Kenya.
3. **$H0_3$:** Asset quality does not have a significant impact on financial performance of Deposit Taking SACCOs in Kenya.
4. **$H0_4$:** SACCO prudential regulations have no moderating effect on liquidity, capital adequacy and asset quality on financial performance of Deposit Taking SACCOs in Kenya.

1.5 Significance of the Study

Different stakeholders are bound to use results of this research including management and employees of DTS who will gain more insights about SASRA regulations that govern operations in the subsector. This will improve their performance and help them in achieving goal of wealth maximization of SACCO members. Directors and management staff of DTS will also learn more about the most effective ways of adhering to SASRA regulations to improve performance.

Also, the study focused on extent to which SASRA's prudential guidelines help in boosting performance of DTS from operational point of view and at the same time highlighting the inherent challenges. This study will be instrumental in providing possible solutions to performance problems in DTS, such as misappropriation of funds, poor record management, power struggles, and non-remittance of members' deductions and contributions. This will not only elevate interest of potential members of the public, but also existing members.

The results will contribute to the body knowledge for further study of the SACCOs. These will help academicians to use the study as a reference point and expand their

understanding and knowledge of the SACCO sector, while carrying out a comparative study in the field. Upon completion, this study was useful to scholars, students, and other researchers by highlighting relationships between SASRA prudential regulations and financial performance which they may not have previously known.

In addition, the study results will sensitise the government by providing key information on success or failure of SASRA legislations, which plays an important role in enhancing accountability. This study will also sensitize policy makers in government to understand magnitude of SASRA prudential regulations on SACCOs performance. This may or may not prove that it influences performance. Informed by this data, policymakers may craft measures inclined towards boosting performance. Consequently, policy makers will formulate laws that will favour the SACCOs to thrive.

1.6 Scope of the Study

The objectives and scope of the study were to examine effects of liquidity, capital adequacy, and asset quality regulations on financial performance of Deposit-Taking SACCOs in Kenya. These objectives were regarded as most relevant to determine the impact of prudential regulations set by SACCO Societies Regulatory Authority on financial stability and sustainability of DTS sector. The scope focused on 175 DTSs that were licensed by year 2021, providing a comprehensive dataset spanning multiple years for a robust analysis. By including DTSs operational before the COVID-19 pandemic, the study aimed to establish the pandemic's potential effects. The study used census to focus on all the 175 DTS registered in Kenya.

1.7 Limitations of the Study

The limitations of the study were that it relied solely on secondary data obtained from financial statements of Deposit-Taking SACCOs, which may not provide a comprehensive picture of effects of SASRA's prudential regulations on financial performance. While the statement of the problem highlighted the declining performance indicators in 2020 and 2021, likely influenced by the COVID-19 pandemic, for illustration purposes, the study analyzed data from a broader period of 2014 to 2021 to capture potential long-term effects. Furthermore, the study did not explicitly address potential endogeneity issues, such as reverse causality, where financial performance could influence compliance with regulatory requirements.

Endogeneity concerns can introduce biases and undermine reliability of the findings. To overcome these limitations, future research could incorporate primary data collection methods, such as surveys or interviews with DTS Managers and regulators, to gain deeper insights into practical implications of the prudential regulations, including specific challenges faced during the COVID-19 period highlighted in statement of the problem. Extending the analysis period beyond 2021 would also be beneficial, as it would capture prolonged effects of the pandemic and sector's resilience in post-pandemic era. Addressing endogeneity concerns through appropriate econometric techniques or instrumental variable approaches could further strengthen the robustness of the findings.

1.8 Organization of the Study

This study was organized in five chapters. Chapter one was background, statement problem, objectives of the study, significance, scope, and limitations of the study. Chapter two covers theoretical and conceptual frameworks by identifying the important

variables related to SASRA prudential regulations and financial performance of DTs. Chapter three concentrated on methodology, design, target population, sampling, data gathering and analysis methods to be used. Chapter four delved into analysing, presenting and interpreting data and chapter five outlines results, conclusions, and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This part delves into a comprehensive examination of available literature regarding SASRA Prudential regulations and financial performance of licensed SACCOs. A critical examination of various authors and their sentiments concerning the topic provided ways of analysing the knowledge gaps. The section reviewed both conceptual frameworks and theoretical studies by identifying the key variables.

2.2 Theoretical Literature

This part covers theories and concepts that examined research questions, facilitate collection and interpretation of applicable data, and justify any underlying influences of observed phenomena.

2.2.1 Public Interest Theory

Arthur Cecil Piguo was first scholar to conceive this theory in 1932 by explaining that regulation comes about when the public demands that there is dire need to address several unproductive practices in the market. This theory postulates that financial regulations try to develop a second-best market to enhance the strength of financial systems and safeguard depositors (Hantke-Domas, 2003). Regulatory bodies are supposed to address underlying issues in such a way that the solutions are beneficial to the entire society, instead of vested interests of individuals. This forces regulators to bear the responsibility of implementing procedures that are well defined and all inclusive.

Public interest theory calls for quick interventions from the government especially in markets that are under threats of failure and need key regulatory reforms to stabilise them. According to Asquer (2018), since government interventions are usually associated with pervasiveness, regulation advocates for protection of public interest by posing the following questions. Generally, is regulating the market a good idea as determined by an increase in income levels, or does it impede socio-economic progress? Therefore, this study sought to establish whether SASRA prudential regulations promote or work against the financial performance of DTS since the policies should strengthen shareholding interest.

This theory is relevant to this study since it describes the rationale of why government introduces regulations through different state departments. To regulate the conduct of SACCOs, SASRA publishes prudential guidelines and circulars that are, in essence, rules that guide how SACCOs operate their businesses. The theory identifies that regulations are meant to ensure that public interest is safeguarded and is always upheld. This is why SASRA is so stringent about following and adhering to these rules. Hence the theory is consistent with the objectives that are being sought by this study.

2.2.2 Buffer Theory of Capital Adequacy

Calem and Rob (1996) invented this concept which helps financial institutions that are at risk of violating the regulatory minimum capital ratio to increase their capital and minimize risks associated by any impending breaches. To keep their legal capital requirements in check, most financial institutions usually hold a buffer capital when they are experiencing volatile capital adequacy ratio (Ikpefan, 2013). Banks with poorly capitalized ratios are always encouraged to take additional risk with the expectation of gaining higher returns that will lead to a boost in their capital. Since most banks hold

more than the suggested capital, regulations aimed at creating acceptable capital buffers (Adamgbo, Toby, Momodu & Imegi, 2019).

With respect to SACCOs, the capital buffer refers to the surplus amount of capital held beyond the required minimum. As expounded by Onyango (2018) if a SACCO has low capital buffers, they can raise more capital, but SACCOs with sufficient or higher capital only need to sustain their buffer. The reasoning behind this is that SACCOs with more capital are less likely to fail because they are protected from adverse financial shocks. Therefore, if the portfolio at risk of a SACCO increases, it responds by raising capital because capital adequacy is a key determinant of SACCO performance. As predicted by the buffer theory, DTS that have the capacity to mobilize sufficient deposits to protect their capital base usually avoid the risks of incurring regulatory costs emanating from breaches (Ikpefan, 2013). On the other hand, DTS with poorly funded capital bases usually fall into the trap of taking more risk hoping to increase their capital through higher returns on their investments (Calem and Rob, 1996). Some end up being bankrupt and their members usually absorb all the risks.

The theory is ideal for SACCOs, as it provides a framework for understanding the effect of capital regulations on financial performance. However, a gap exists in the definition of excess capital beyond the required amount by SASRA. While the theory outlines the potential benefits of maintaining higher capital levels, such as increased financial stability and resilience, it does not specifically address the unique challenges and operational dynamics faced by SACCOs. These cooperative institutions have a distinct ownership structure, governance model, and social mission, which may influence their capital management strategies and the optimal level of excess capital to maintain. The theory's one-size-fits-all approach to excess capital may not accurately capture the

nuances of the SACCO sector, where striking a balance between regulatory compliance, financial sustainability, and member interests is crucial.

Additionally, the theory does not explicitly consider the potential trade-offs associated with holding excessive capital, such as opportunity costs and reduced profitability, which could be particularly relevant for SACCOs operating in competitive markets. To address this gap, a more contextualized understanding of excess capital in the SACCO context is required, considering factors such as cooperative principles, member expectations, and the sector's unique risk profile. By adapting the theory to the specific characteristics of SACCOs, policymakers and regulators can develop more tailored capital adequacy guidelines that promote financial stability while aligning with the cooperative ethos and ensuring the long-term viability of these member-owned institutions.

2.2.3 Agency Theory

Meckling and Jensen (1976) invented this theory and postulated that in modern day enterprises, most managers fail to maximize the returns of shareholders unless they are held accountable by effective governance structures. In large firms, owners (known as principals) usually employ managers (known as agents) to protect shareholder interests. In most cases, the actions taken by the managers play a key role in resolving the issues arising from various business transactions affecting shareholders. In agency theory, principal-agent conflict may occur when miscommunication and discrepancies from both parties deviate from the best interests of other stakeholders leading to an agency loss (Vitolla, Raimo & Rubino, 2020).

Panda & Leepsa (2017) specified several mechanisms that firms can use to reduce agency loss. The most important one is providing financial incentives to managers

(agents) depending on the extent to which they protect shareholder interest. Such arrangements typically take account of giving the managers an opportunity to buy shares at subsidized prices, hence supporting their financial interests and those of shareholders (Vitolla, Raimo & Rubino,2020). Principals may also intervene directly by appointing audit committees and footing the bill for their own monitoring of agents' conduct; they may also use punitive measures, such as the fear of termination, to get agents to perform as expected.

There exists a relationship between this study and agency theory because liquidity management framework and SASRA prudential regulations guide SACCOs to prudently plan for adequate cash withdrawal demands from members and daily operations. The theory is crucial to this study because members deposit their funds in SACCOs where managers as agents grant these funds as loans to members. The managers need to adhere to asset quality management on loan provision regulation as guided to enable them continuously improve on loan repayments and reduce provision expenses. Another importance of this theory to this research is share capital whereby segment of members' funds is regulated by board of directors via managers. Agency theory supported the examination of the extent to which SASRA regulations on liquidity and loan provisioning affect the financial interests of executives and shareholders of these SACCOs.

2.3 Empirical Review

This part deals with in-depth critique of existing literature related to the SASRA prudential regulations and DTS financial performance. The section is organized as per three dependent variables derived from the objectives: liquidity, capital adequacy and

asset quality through loan provisioning, and how they influence financial performance. Studies were reviewed, interrogated, and critiqued to bring out the gaps.

2.3.1 Liquidity and Financial Performance

Muheebwa (2018) conducted a study on the relationship between liquidity and financial performance of microfinance institutions in Uganda, specifically targeting 135 SACCOs. Employing the modern portfolio theory as a theoretical framework, the researcher used a stratified sampling technique to select 19 SACCOs as the sample size. Data was collected through questionnaires and analyzed using SPSS. The findings revealed a significant positive relationship between SACCOs' financial performance and their liquidity levels. The study concluded that maintaining adequate liquidity enables SACCOs to meet their financial obligations promptly and plan for future investments, thereby enhancing their financial stability. However, the study did not consider the impact of capital adequacy and asset quality, which are crucial determinants of cash inflows and outflows, ultimately affecting liquidity management.

Gweyi, Olweny, and Oloko (2018) investigated the influence of liquidity risk on the financial performance of 164 Deposit-Taking SACCOs (DTS) in Kenya. Employing a census method, the study sampled 135 SACCOs and extracted secondary data from audited financial statements. The results, analyzed using inferential and descriptive statistics, showed that liquidity risk negatively impacted the financial performance of SACCOs. This negative effect was attributed to the failure of most SACCOs to prioritize liquidity management using their own resources, instead relying heavily on member deposits. Frequent withdrawals by members seeking better investment opportunities from commercial banks further exacerbated the liquidity challenges faced by the DTSs (Gweyi et al., 2018). However, the study did not consider the impact of

capital adequacy and asset quality, which are important determinants of a SACCO's ability to settle existing debt obligations without raising external capital.

Muriithi and Waweru (2017) examined the influence of liquidity risk on the financial performance of 43 commercial banks in Kenya. Employing a quantitative research design, the study collected secondary data from the banks' financial statements. Liquidity risk was measured using the net stable funding ratio and liquidity ratio, while financial performance was assessed using return on equity (ROE). The findings revealed that liquidity risk negatively influenced the financial performance of commercial banks in Kenya (Muriithi & Waweru, 2017). This negative impact was attributed to the banks' failure to prioritize liquidity management by strictly adhering to industry standards. However, the study did not consider the effects of capital adequacy and asset quality, which are crucial factors in a firm's ability to take financial risks.

Shah, Khan, and Tahir (2018) investigated the factors affecting the liquidity of Pakistani banks. The study sampled 23 banks operating in the country between 2007 and 2016. The results showed that capital adequacy, cost of funds, bank size, and GDP significantly impacted the ratios of total loans to deposits and liquid assets to total assets of commercial banks. However, profitability had an insignificant relationship with liquidity (Shah et al., 2018). It is important to note that the study's scope was limited to Pakistani banks operating during the period of 2007 to 2016, which may limit the generalizability of the findings to other contexts.

2.3.2 Capital Adequacy and Financial Performance

Ngeno (2019) conducted a study to establish the extent to which the capital adequacy framework is associated with the financial performance of Deposit Taking SACCOs (DTS) in Kenya. The study employed a census survey approach, selecting 111 DTSs as

the sample. Data was collected from respondents through the administration of questionnaires. The findings revealed that risk management, credit management, internal financing, capability of management, and portfolio selection had a positive influence on the financial performance of SACCOs. Additionally, the study found that fund allocation had a moderating influence on the relationship between capital adequacy and financial performance. Based on these results, Ngeno (2019) recommended that SACCOs should seek external financing and leverage it to achieve better performance. However, it is important to note that the study heavily relied on primary data sources, which may limit the generalizability of the findings.

Nguyen et al. (2018) investigated the factors influencing the profitability of 13 banks in Vietnam, with the aim of understanding the existing financial situation of the banking industry and informing the development of suitable policies. The study utilized panel data, which was gathered and analyzed. The independent variables included rates of return on assets (ROA), return on equity (ROE), and net interest margin (NIM). The study incorporated 19 domestic banks as independent variables, along with macroeconomic indicators and bank-specific metrics such as size, liquidity, capital adequacy, ownership structure, credit risk, and the cost-to-income ratio. The study found that capital adequacy was positively associated with net interest margin, and liquidity was positively related to return on equity. However, the income-to-cost ratio was observed to have an adverse significant impact on profitability, with a negative association indicating increased efficiency and higher income (Nguyen et al., 2018).

Mehta and Bhavani (2017) examined the factors influencing the profitability of commercial banks in the United Arab Emirates (UAE) between 2006 and 2013. The researchers employed a panel data regression analysis technique. The study tracked

profitability measures, specifically Return on Equity (ROE), Return on Assets (ROA), and Net Interest Margin (NIM). The independent variables were selected from within the banking industry. The bank-specific characteristics considered included income diversity, growth, capital adequacy, size, cost efficiency, and liquidity. The metric of market concentration was used to assess industry-specific performance, while inflation and GDP were utilized at the macro level. The empirical evidence revealed that cost efficiency exerted the most significant influence on various indicators of profitability. Diversification into non-traditional revenue streams led to an increase in profitability, albeit at the expense of a decline in net interest margin (Mehta & Bhavani, 2017). However, the study did not investigate the influence of core capital utilization, a crucial factor in determining a firm's creditworthiness.

Magomere and Otinga (2019) performed a study in Kakamega County, Kenya, investigating the factors that determine the financial performance of microfinance institutions (MFIs). The researchers sampled 94 senior managers from 17 MFIs operating in Kakamega County and used questionnaires to collect data, both manually and electronically. According to the results, it was revealed that an adequate capital base, minimum capital requirements, and relative capital significantly influenced the return on investment (ROI) of MFIs in Kakamega County. To realize an increase in ROI, the study recommended that MFIs have a duty to implement appropriate loan provisions for bad debts and maintain adequate loan loss reserves (Magomere & Otinga, 2019).

Musyoka (2017) evaluated the effect of capital adequacy on the financial performance of banks in Kenya. Through a census survey approach, the researcher selected 42 banks as the sample. The gathered data was evaluated using descriptive and inferential

statistics. According to the findings, Musyoka (2017) noted a significant negative relationship between bank size, capital adequacy, and return on assets (ROA). However, there was an insignificant negative relationship between asset quality, management quality, and ROA. Additionally, the research indicated an insignificant positive relationship between liquidity and ROA.

2.3.3 Asset Quality and Financial Performance

Hamdillah, Purwanto and Ermawati (2021) state that a substantial risk component of SACCO depends on the quality of its assets because its main task is extending credit to members. Default happens when a debtor breaches the debt contract or fails to pay the loan instalments. Among the main causes of SACCO poor performance in Kenya is poor asset quality (loans) especially insiders non-performing loans. According to Kamande (2017), asset quality evaluated by net NPLs to gross loans ratio has grown over the last 5 years. This can be linked to the risk management programs executed by banks that improved credit appraisal and management quality. SASRA and CBK directives on asset quality are same and grant SACCOs asset quality ratios that should be maintained for enhanced performance. SASRA regulates the level of asset investment but in few instances, some assets are worth investing and provide good pay back if properly regulated (Masika & Simiyu,2019).

A study by Kadioglu, Telceken and Ocal (2017) investigated the extent to which NPLs affect the profitability of 55 Turkish banks. The Researchers analysed quarterly financial statements by applying a panel regression method and this resulted in 1809 observations. The examined data covered slightly over a decade from 2005 to 2016. The findings showed that commercial banks' NPLs have substantial negative association with banks profit as evaluated by ROA and ROE. The study established that

commercial banks that had higher NPLs and lower asset quality had a lower return ROE and ROA. In addition, commercial banks with lower NPLs and higher asset quality had higher ROA and ROE. However, since the study used data collected within ten transitional years, the results failed to provide sufficient trend evidence to support the hypothesis.

A study carried out by Kamande (2017) investigated the level to which particular aspects affected financial performance of Kenyan banks within 5 years. The independent variables were management efficiency, earnings ability, liquidity, asset quality, and capital adequacy, while ROA was utilised as the dependent variable to evaluate financial performance. Research examined performance of 11 banks from 2011 to 2015 due to the availability of complete data with reference to fast growth of banking sector during the stated period. This research utilised secondary data gathered from 11 banks in Nairobi Securities Exchange financial reports which was analysed using panel data. Research showed all the independent variables had a substantial impact on ROA. It was concluded that ROA was highly influenced by asset quality. However, research heavily depended on secondary data sources.

A study by Said (2018) analysed effect of asset quality on profitability of small banks in US from 2010 to 2017. The Researcher examined commercial banks with assets size from $100M to $300M. Researcher applied the Pearson Product Moment Correlation for measuring correlation between the ROA and ROE and the total non-current assets, and 90 days leases and loans in non-accrual status. According to the findings, both ROA and ROE had a negative association with all independent variables. The increased rules and control over interest rates are evidence of this study's findings. However, the researchers only focussed on small commercial banks in the US.

In Indonesia, Pelealu and Worang (2017) studied on impact of loan loss provision on profitability of banks. Researchers targeted listed banks in Indonesia Stock Exchange. Findings revealed that provisioning of loan loss had a positive insignificant effect on bank profitability. This mean that loan loss provision helped banks to achieve their profitability but there was a high risk of accruing losses. It was also noted that bank size and amount of deposits held had an insignificant impact on profitability, but liabilities had a substantial effect on profit. Study recommended that listed banks in the Indonesian Stock Exchange should establish loan loss provisions as a buffer to an anticipated decline in profitability. The gap in this study was that the Researchers did not examine the influence of other prudential regulations allied to loan loss provisioning, such as capital adequacy and liquidity, which affect financial performance.

Kamau (2017) investigated the extent to which regulations affected the SACCOs financial performance in Eldoret Kenya. Liquidity, loan loss provisions, investments, and capital were the independent factors examined. 71 participants were sampled in 10 SACCOs operating in Eldoret. Through census, Researchers collected data using questionnaires. Study found out that the SACCOs formulated loan provision requirement that enabled them to optimize their long-term financial performance. Regulations stipulated by the regulatory authority enabled the SACCOs to create loan provisions. The researcher recommended that SACCOs should strictly follow SASRA regulations to minimize short-term liabilities and maximize the volume of total loans. The study only focussed on DTS located in Eldoret and it is not convincing that the results could apply to other DTS in Kenya.

2.4 Summary of Research Gaps

It is evidently that institutions prudential regulations influence financial performance of financial institution in Kenya as well as other parts around the world. The table 2.1 summarises research gaps from the various empirical studies that were used in this study.

Table 2.1 Empirical Studies Summary Gaps

Authors	Title	Findings	Established Gaps	Study Focus
Ngeno (2019)	Relationship between capital adequacy framework and DTS in Kenya financial performance	Credit management, internal financing, managerial capability, portfolio selection, and management of risks had a positive effect on financial performance of DTs in Kenya.	This research heavily relied on primary data sources and did not consider capital adequacy and liquidity ratio.	This study analysed secondary sources of data and considered capital adequacy, liquidity, and asset quality.
Tahir, Khan, and Shah (2018)	Factors affecting operation of Pakistan banks between 2007 and 2016.	Bank size, costs of funds and capital adequacy ratio were statistically significant but related differently to liquidity to total assets ratio.	This study restricted its scope to Pakistani banks operating between 2007 and 2016	This research analysed all DTS in Kenya that comply with SASRA prudential regulations irrespective of the number of years they have been in operation.
Nguyen et al (2018)	Factors affecting profits of 13 profit making Vietnam banks from 2006 to 2015.	Capital structure was positively related to ROE, and it also recorded a negative effect on the ROE	The sample population was too small to generalize the findings and make valid conclusions and the study was in Vietnam.	This study used an optimal sample size for the data collection to arrive at reliable conclusions and recommendations and was in Kenya for DTs.
Said (2018)	Effect of Quality of Assets on the profit of small commercial banks in US.	There was negative correlation between ROA and ROE to total non-current loans and leases.	The study only focused on small commercial banks in the US and not SACCOs in Kenya.	This study analysed all DTS that comply with SASRA prudential regulations in Kenya.

Muriithi & Waweru (2017)	Impact of Liquidity Risk on Kenya's Commercial Banks' Financial Results.	GDP and profitability have significant statistically effect on banks liquidity.	The study did not consider deposits to loans which is key in evaluating banks' ability to take risks.	This study used loans to deposits ratio in examining financial performance of DTs in Kenya.
Mehta and Bhavani (2017)	Causes of commercial domestic banks' productivity in UAE from 2006 to 2013.	Cost efficiency was the most significant measure influencing profitability. They noted GDP to only affect ROA and ROE.	The study did not address the usage of core capital in the firm.	The study examined the need to use minimum capital ratio to help SACCOs withstand episodes of financial stress.
Kamande (2017)	Effects of particular factors that influence financial performance of commercial banks in Kenya.	Asset quality high influence ROA.	The study heavily depended on secondary data sources.	Current research relied secondary data sources but reviewed reports from the SACCOs board.
Pelealu & Worang (2017)	Effect of provision of loans loss on banks profitability.	Provision for loan loss did not have a significant positive effect on profit of the banks.	The research did not consider how liquidity and capital adequacy affect the financial performance.	The study focused how capital adequacy and liquidity affect financial performance.

Source: Author (2023)

2.5 Conceptual Framework

Figure 2.1 provides a proposed diagrammatic relationship of the study variables. Independent variables consist of Liquidity, Capital Adequacy, Asset Quality (Loan Provisioning) while the dependent variable (DV) is financial performance of DTs evaluated by ROA.

Independent variables **Moderating variable** **Dependent variable**

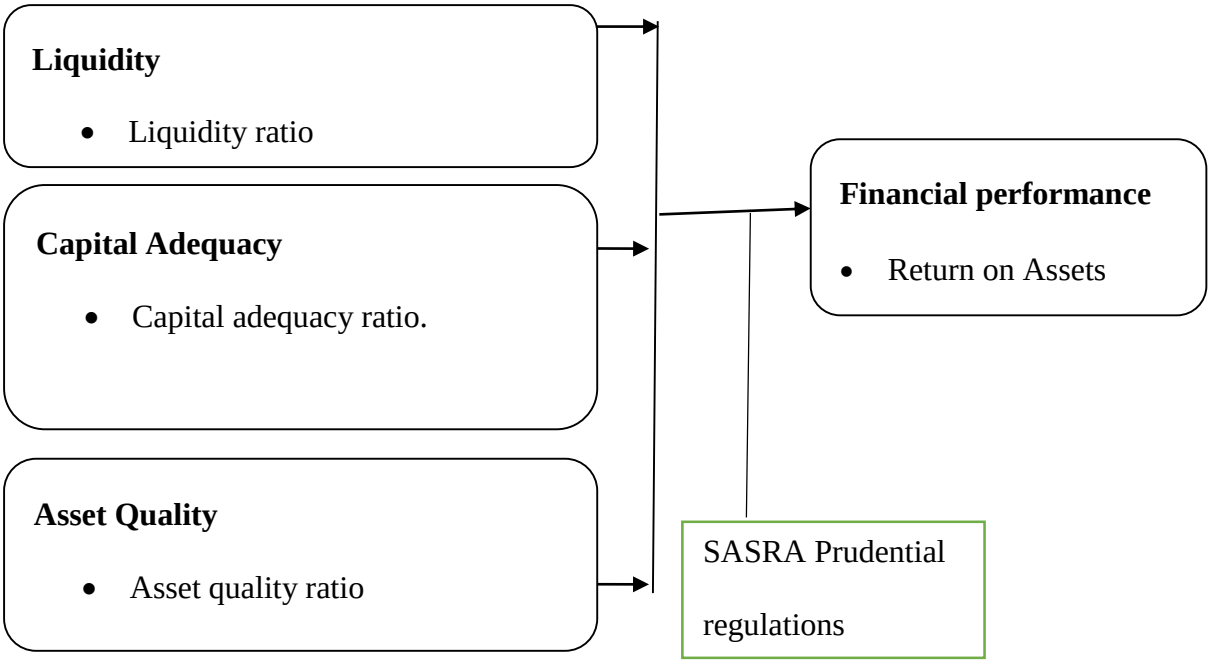

Figure 2.1 Conceptual Framework

Source: Author (2023)

The dependent variable is DTS financial performance in terms of retun on assets, independent variables are liquidity,capital adequcy and asset quality and moderating variable which is SASRA prudential regulations. ROA was employed to measure the financial performance of DTS. Liquidity was measured by liquidity ratio. SASRA provides that the DTS directors are responsible of overseeing liquidity policy of DTS is in place and the DTS maintain 15% of savings and deposits in liquid or near liquid form. Capital adequacy is evaluated in terms of the absolute minimum as stipulated in the regulations. The minimum core capital presently stipulated by SASRA is Kenya shillings 10 million. Any SACCO with problems on any of the above indicators should be flagged off and necessary action taken. Asset quality is evaluated in terms of performing loans less provisions of NPLs as a percentage of loans which is called PAR (portfolio at risk) and total loan delinquency. According to SASRA regulations, NPLs are those loans that have been outstanding for a period of over 60 days or over two instalments.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section covered methods utilised to attain goals of the study. This included study design, research philosophy, sample size, sampling techniques, target population, data collecting tools and data analysing technique.

3.2 Research philosophy

Zukauskas, Vyeinhardt and Andriukaitiene (2018), mentioned that research process is dominated by four philosophical views. There includes pragmatism, positivism, interpretivism, and realism. Pragmatism is a philosophical notion that an ideology is true if it works suitably in practical circumstances and that impractical ideas must be rejected. Positivism involves objectivity, which claims that the social world be examined objectively and not through subjective approaches. If the research philosophy replicates positivist concepts, then the researcher almost certainly agrees to take the rational approach. Interpretivism obliges interprets the world as a different entity and human beings as the observer. The subject being observed in the long run affects research results. Principle of realism is revealing the true reality and interprets objects as existing independently according to how the human mind perceives them. This study adopted the positivism as recognized by Hussey & Hussey (2007).

The justification for adopting the positivism philosophy in this study lies in its alignment with the research objectives and the nature of the investigation. Positivism is a philosophical stance that emphasizes empirical observation and the use of scientific methods to study phenomena and establish objective truths. Given that the research

aims to examine the effects of SASRA prudential regulations, specifically liquidity, capital adequacy, and asset quality, on the financial performance of Deposit-Taking Saccos (DTSs) in Kenya, a positivist approach is well-suited. The study sought to quantify the relationships between these variables and draw conclusions based on empirical evidence and statistical analysis. By adhering to the principles of positivism, the research can maintain objectivity, reliability, and generalizability, which are essential attributes for informing policy decisions and contributing to the existing body of knowledge in the field. Furthermore, the positivist paradigm aligned with the quantitative nature of the study, which involved the analysis of numerical data derived from financial statements and other relevant sources.

3.3 Research Design

This is a comprehensive design and framework of the various methods that a researcher uses to conduct a scientific study successfully (Bloomfield & Fisher, 2019). Research design refers to the methodology employed to conduct the research (Mugenda, 2003). The research used correlational research design. The justification for employing a correlational research design stemmed from the nature of the research objectives and the variables under investigation. The study aimed to examine the effects of SASRA's prudential regulations, specifically liquidity, capital adequacy, and asset quality, on the financial performance of Deposit-Taking SACCOs (DTSs) in Kenya. A correlational research design was appropriate when the researcher sought to establish and quantify the relationships between two or more variables without manipulating them. In this case, the independent variables (liquidity, capital adequacy, and asset quality) were not subject to experimental manipulation, as they were influenced by regulatory requirements and the operations of the DTSs themselves. The correlational design

allowed the researcher to measure the strength and direction of the associations between these independent variables and the dependent variable, financial performance, using statistical techniques such as regression analysis. This design was particularly useful when studying phenomena that could not be easily controlled or manipulated, as was the case with regulatory requirements and financial performance indicators. Furthermore, a correlational research design aligned with the quantitative nature of the study, which involved the analysis of numerical data derived from financial statements and other relevant sources. By employing this design, the researcher drew conclusions about the relationships between the variables and contributed to the existing body of knowledge in the field.

3.4 Target Population

The target population is a group, elements, or objects that a researcher focuses on to generate findings of a study (Quinlan, Babin, Carr & Griffin, 2019). The target population comprised 175 Deposit-Taking SACCOs (DTSs) in Kenya that were gazetted by the SACCO Societies Regulatory Authority (SASRA) as of 31st December 2021, as shown in Appendix V (SASRA, 2022). By considering the entire population of 175 DTSs, the study employed a census approach, eliminating the need for sampling.

3.5 Sampling Design

Sampling refers to the process of selecting a specific element or component from a larger population with the intention of making generalizations (Chauvet, 2020). The study employed a census sampling technique in this study due to the relatively small size of the population (Mugenda and Mugenda, 2013). Data was collected from a total of 175 licensed Savings and Credit Cooperative Organizations (SACCOs). A census involves the collection of data from every member of the target population, ensuring

comprehensive coverage and minimizing the potential for sampling errors or biases. This approach was deemed appropriate given the manageable size of the target population and the researcher's ability to access the required data from all 175 DTSs. Conducting a census not only enhanced the representativeness of the findings but also allowed for a more detailed and nuanced analysis of the relationships between the study variables across the entire SACCO sector in Kenya. Consequently, the researcher did not undertake any sampling techniques, as the study aimed to generate insights and draw conclusions based on the entire target population of 175 DTSs registered with SASRA as of 31st December 2021.

3.6 Empirical Model

Research used multivariate regression model to determine correlation between independent and dependent variables. Below model was utilised to explore link between prudential regulations and financial performance.

$$FPit = f(\text{Liquidity, Capital adequacy, asset quality}) \quad \text{(Eq 1)}$$

$$FPit = B0 + B_1Liqit + B_2Cait + + B_3Aqit + e \quad \text{(Eq 2)}$$

Where: FPit = SACCO financial performance measure using return on assets.

B0 = Constant (all other variables that affect performance other than these discussed in this study).

Cait = Capital adequacy for SACCO i in period t.

Liqit = SACCO i Liquidity in period t.

Aqit = Asset Quality of the asset for SACCO i in period t.

e = Error term.

B1……. B3 = regression coefficient of the three variables.

3.7 Variables Operationalization and Measurement

This is the way of turning variables into measurable observations. It involves how a concept can be manipulated, observed, or measured. Table 3.1 presents the summary of the operationalization of the variables.

Table 3.1 Operationalization of variables

Variables	Variable type	Measurement	Operationalization	SASRA Requirement	Level of Measurement
Liquidity	Independent	Liquidity ratio	Liquid assets/members deposits	≥15%	Ratio scale
Capital adequacy	Independent	Capital adequacy ratio	Core capital to total assets.	≥ 10%	Ratio scale
Asset quality	Independent	Asset quality ratio	NPLs/Gross loans	≤ 2%	Ratio scale
Financial performance	Dependent	Return on assets (ROA)	Net income / Assets.	Nil	Ratio scale

Source: Author (2023)

3.8 Data Collection Instruments

The research instrument employed in this study was a secondary data collection template. This template was designed to facilitate the systematic extraction and organization of relevant financial data from the audited financial statements and reports of the Deposit-Taking SACCOs (DTSs) under investigation for the period spanning 2014 to 2021. The secondary data collection template served as a standardized tool, ensuring consistency in the data collection process across the target population of DTSs. It enabled the researcher to capture key financial indicators and variables, such as liquidity ratios, capital adequacy ratios, asset quality metrics, and profitability measures, over the eight-year period under study. The use of a secondary data collection

template not only streamlined the data gathering process but also enhanced the reliability and comparability of the data obtained from various sources. By relying on audited financial statements and reports, the study leveraged credible and independently verified information, minimizing potential biases associated with self-reported data.

3.9 Data Collection Procedure

Obtaining information from SASRA, researcher looked for an introduction letter from Kenyatta University and approval from NACOSTI which was presented to SASRA officials for assistance. The SASRA officials were utilized to provide access to data or information that was not publicly available, supplementing the audited financial reports obtained from the SASRA database or registry. Data was collected from audited accounts from SASRA database or SASRA registry. The data was scrutinized, analyzed, and manipulated before reaching generalized conclusions regarding the entire population.

3.10 Data Analysis and Presentation

Panel data was used as financial statements contain cross sectional and time series information that minimize biasness in parameter estimators (Baltagi, 2005). The Researcher collected data for eight (8) years from 175 DTS. Descriptive analysis (mean, standard deviation, minimum and maximum) was undertaken. Multiple correlation was utilized to explore connection between variables. Multiple linear regression model was utilized to evaluate impact of SASRA prudential regulation on DTS financial performance. Data collected was evaluated by use of Stata Version 17 also advanced MS excel and findings were presented using tables and graphs.

3.11 Diagnostic Tests

This are statistical procedures utilised to analyse the assumptions, identify issues, and assess the reliability of the results obtained from a statistical model or analysis. These tests are crucial in ensuring the validity of the findings and in identifying potential problems that may affect the interpretation of the results (Knottnerus & Muris, 2003). Diagnostic tests help researchers to verify whether their data meets the assumptions of the chosen statistical method and to address any violations or anomalies that could impact the accuracy and credibility of the findings (Zhou, McClish & Obuchowski, 2009). Diagnostic tests undertaken in the study encompassed multicollinearity test, normality tests, heteroscedasticity test, stationarity test, autocorrelation test and Hausman test.

3.11.1 Multicollinearity Test

Multicollinearity test performed in this study served the purpose of examining whether there were high correlations between the predictor variables. Multicollinearity can lead to instability in the regression model and make it challenging to discern the individual effects of each predictor variable. To assess multicollinearity, the researcher utilized the Variance Inflation Factor (VIF) test on the data. The test provides a numerical indicator of the extent to which each independent variable is correlated with other predictors. A VIF value greater than 10 is often considered indicative of multicollinearity (Daoud, 2017). By conducting this test, the researcher could identify any problematic levels of correlation and take appropriate measures, such as excluding highly correlated variables or combining them into composite variables, to address the issue and improve the accuracy and reliability of the regression analysis.

3.11.2 Normality Test

This test was carried out to make sure that data met the assumption of normality, which is essential for many statistical analyses. The skewness and kurtosis tests were employed to examine shape of the data distribution. If the data showed significant departure from normality, such as being heavily skewed or exhibiting extreme kurtosis, it could impact the validity of statistical inferences (Khatun, 2021). In cases where variables were noted to be non-normally distributed, researcher applied a logarithmic transformation to normalize the data. Transforming the variables helps to achieve the assumption of normality and ensures the reliability of the regression estimates and hypothesis testing.

3.11.3 Heteroscedasticity Test

Breusch-Pagan test was performed to check for heteroscedasticity in the data. Heteroscedasticity happens when variance of residuals is not constant across different levels of the independent variables (Rosopa, Schaffer & Schroeder, 2013). This violation can lead to biased standard errors and affect the efficiency of the coefficient estimates. By conducting the Breusch-Pagan test, the researcher could identify any significant heteroscedasticity and make appropriate adjustments, such as using robust standard errors or employing weighted least squares regression, to mitigate its impact on the results.

3.11.4 Stationarity Test

The researcher conducted a unit root test, specifically using the Levene test to examine stationarity of the data. The study's analysis involved panel data, which involves observing multiple entities over multiple time periods. Stationarity is a key assumption

in time series analysis, and non-stationary data may result to spurious regression results (Hadri, 2000). The Levene test helps to examine if the variables exhibit constant mean and variance over time, which is essential for reliable regression estimates and forecasting.

3.11.5 Autocorrelation Test

Furthermore, Wooldridge test was utilised to test autocorrelation in the data. Autocorrelation occurs when there is a systematic relationship between the residuals of the regression model at different time lags. Autocorrelation violates the assumption of independence of the errors, which can lead to inefficient and biased coefficient estimates (Chen, 2016). By conducting the Wooldridge test, the researcher could detect any autocorrelation and address the issue to ensure the reliability of the regression results.

3.11.6 Hausman Test

The Hausman test is a statistical analysis that compares the accuracy of two model estimators. When contrasting estimators for use with panel data, the fixed effects estimator and the random effects estimator are the most common candidates for comparison. The Hausman test was used to identify the optimal estimator for the available panel data. When the Hausman test's null hypothesis is rejected, it's best to use the fixed effects estimator.

3.12 Ethical Considerations

Steelman, Hammer and Limayem (2014) defined ethics as a system of moral philosophies that distinguishes between right and wrong in social interactions. In academic research several ethical issues consist of thoughtful fabrication of truths

contrary to the investigation. Since human subjects were utilized, the researcher took precautions to ensure that they would face no legal consequences for participating in the study. Ethical considerations included requesting an introduction letter from Kenyatta University School of Graduate to seek permission to collect data and authority letter from NACOSTI.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, AND INTERPRETATION

4.1 Introduction

This section concentrates on presenting the findings derived from the quantitative analysis of the research data and engaging in a discourse surrounding these findings. It encompasses the elucidation of descriptive results, the execution of diagnostic tests, the performance of correlation analyses, the application of panel regression techniques, and the examination of the proposed research hypotheses. The amalgamation of these elements serves to provide a comprehensive understanding of the intricate relationships and dynamics underpinning the subject matter under investigation.

4.2 Descriptive Analysis

Study gathered research data from 175 SACCOs distributed across the country. This data was obtained from audited financial reports of these SACCOs submitted to SASRA. Table 4.1 presents summary statistics for key indicators, namely liquidity, capital adequacy, asset quality, and ROA.

Table 4.1 Summary of Descriptive Analysis

Variable	Mean	Std. Dev.	Minimum	Maximum
Liquidity	0.19476	0.16223	-0.30018	1.18411
Capital Adequacy	0.12044	0.09317	-0.59885	0.83486
Asset Quality	0.52907	7.77117	0.00000	286.68070
ROA	0.00109	0.02635	-0.01382	0.90092

Source: Research Data (2023)

The mean liquidity ratio of approximately 0.19 indicates that on average, Deposit Taking SACCOs (DTSs) maintained a liquidity level of 19% of their total assets in liquid form. This figure surpasses the SASRA minimum liquidity threshold of 15%, the range from -0.30 to 1.18 reveals some DTSs operating with negative liquidity positions, which could compromise their ability to meet short-term obligations. Effective liquidity management remains crucial for DTSs to maintain financial stability and comply with regulatory requirements. On capital adequacy, the mean ratio of 0.12 aligns with SASRA's minimum core capital to total assets ratio of 10%, suggesting that DTSs, on average, maintain adequate capital levels to absorb potential losses. However, the range from -0.60 to 0.83 implies that some DTSs may have negative capital positions, signaling insolvency risks and potential regulatory interventions.

The average asset quality ratio of 0.53 suggests that DTSs generally maintain a moderate level of asset quality, with approximately half of their assets classified as non-performing. However, the substantial variation, as evidenced by the large standard deviation of 7.77 and the maximum value of 286.68, indicates inconsistencies in asset quality across DTSs. This could be attributed to varying lending practices, risk management strategies, or economic conditions faced by individual DTSs. With an average Return on Assets (ROA) of 0.00109, DTSs demonstrate relatively low profitability levels, potentially indicating challenges in achieving optimal financial performance.

The significant variation in ROA, ranging from -0.01382 to 0.90, suggests that while some DTSs are generating substantial returns, others are experiencing losses, which could be attributed to operational inefficiencies, suboptimal asset utilization, or financial management issues. These findings underscore the need for tailored strategies

and interventions to address the specific challenges faced by individual DTSs. Regulators and industry stakeholders should collaborate to enhance liquidity management, maintain adequate capital levels, improve asset quality, and foster operational efficiency to ensure the long-term financial stability and profitability of the SACCO sector.

4.3 Diagnostic Analysis

The research utilized panel quantitative data to investigate the research problem. Employing panel data necessitates adherence to certain standard requirements for the observations to be viable for use in panel regression analysis. This ensures the validity and reliability of the findings. Diagnostic tests undertaken in the research encompassed a Multicollinearity test, which checks for high correlation among independent variables, Normality tests, to determine if the data follows a normal distribution, a Heteroscedasticity test, to ensure constant variance in the error terms, a Stationarity test, to confirm that the time series data properties do not change over time, an Autocorrelation test, which checks the correlation of a time series with its past and future values, and finally, a Hausman test, which assists in choosing among fixed effects and random effects models. All these tests contribute to a robust panel regression analysis, reinforcing the reliability and validity of the study results.

4.3.1 Multicollinearity

The purpose of the multicollinearity test performed was to determine whether there was a high relationship between predictor variables. Research utilized VIF test on the data. Results are displayed in Table 4.2.

Table 4.2 Multicollinearity Results

Variable	VIF	1/VIF
Capital Adequacy	1.27	0.789546
Asset Quality	1.26	0.790846
Liquidity	1.00	0.998139

Source: Research Data (2023)

Upon evaluation of the Variance Inflation Factor (VIF) values, the study found no evidence of multicollinearity. The VIF values for all variables were below 10, the commonly accepted threshold indicating high correlation among predictor variables (Alin, 2010). This finding implies that each variable provides unique and independent information to the model, ensuring that the estimated coefficients are reliable and unbiased. The absence of multicollinearity enhances the model's ability to accurately capture the individual effects of each explanatory variable on the dependent variable, thereby strengthening the validity and interpretability of the results.

4.3.2 Normality Tests

This test was done using skewness and kurtosis. Logarithmic transformation was applied to any variable that did not fit the normal distribution. Results are shown in Table 4.3

Table 4.3 Normality Results

Variable	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
ROA	0.0482	0.04701	11.31	0.0601
Liquidity	0.0433	0.0319	6.91	0.1474
Capital Adequacy	0.0007	0.0064	4.77	0.1308
Asset Quality	0.0845	0.0081	8.04	0.8502

Source: Research Data (2023)

The results in Table 4.3 indicate that the data was normally distributed since the respective p-values for all variables were more than 0.05. The normality of the data distribution is a significant assumption in many statistical analyses, as it ensures that the findings are unbiased, efficient, and consistent. Consequently, the study's adherence to this assumption reinforces the reliability and robustness of the statistical inferences drawn from the analysis, enabling more accurate and generalizable conclusions.

4.3.3 Heteroscedasticity Test

Study findings are outlined in Table 4.4.

Table 4.4: Heteroscedasticity Test

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity		
chi2(1)	=	2.0702
Prob > chi2	=	0.0618

Source: Research Data (2023)

The results in Table 4.4 show that the p-value is more than 0.05, leading to the non-rejection of the null hypothesis at the 0.05 level of significance since the reported value is 0.0618 > 0.05. This finding indicates no evidence of heteroscedasticity in the data. Heteroscedasticity, or the presence of unequal variances in the error terms, can violate the assumptions of linear regression models and lead to biased and inefficient estimates. By confirming the absence of heteroscedasticity, the study ensures that the obtained results are fair, powerful, and consistent, thereby enhancing the reliability and validity of the subsequent analyses and conclusions.

4.3.4 Stationarity Test

A Levene test for a unit root was used to investigate whether or not the used variables are stationery, and results are in Table 4.5.

Table 4.5: Panel Unit Root Test

Variable name	Statistic(adjusted)	P-value	Comment
ROA	7.0147	0.000	Stationary
Liquidity	4.0612	0.000	Stationary
Capital Adequacy	4.8425	0.012	Stationary
Asset Quality	2.9538	0.000	Stationary

Source: Research Data (2023)

The study established that the p-values for all variables were below 0.05, indicating that all variables can be considered stationary and lacking unit roots at a 5% significance level. Stationarity is a crucial assumption in time series analysis, as non-stationary variables can lead to spurious regression results and invalid inferences. By confirming the stationarity of the variables, the study ensures that the results obtained are reliable and not driven by random or trending factors. This finding bolsters the validity of the subsequent analyses and conclusions drawn from the study, providing a solid foundation for meaningful interpretation and policy recommendations.

4.3.5 Autocorrelation Test

Wooldridge test was employed and the findings are provided in Table 4.6

Table 4.6: Autocorrelation Test

Wooldridge test for autocorrelation
H0: no first-order autocorrelation
Prob > F = 0.3961

Source: Research Data (2023)

Null hypothesis for this autocorrelation test was the assumption of no autocorrelation within the panel data used in the study. P-value was recorded at 0.3961, which is above the standard significance level of 0.05. It reveals that the F-test, at a 5% significance level, is not statistically significant. As such, the absence of autocorrelation cannot be rejected as a null hypothesis. This suggests there's insufficient evidence to conclude that autocorrelation exists within the panel data used. It was concluded that the residuals are not autocorrelated. Absence of autocorrelation in the residuals implies the independence of error terms, an assumption that validates the reliability of the regression model used.

4.3.6 Hausman Test

In analyzing panel data, a crucial decision researchers have to make is which model to apply. This decision hinges on the specific characteristics and assumptions about the data set in question. To help decide between these two models, the researcher conducted Hausman test. This test is used to analyze whether the variations in coefficients between this models are systematic. If they are, the fixed effects model is typically preferred. Conversely, if there's no significant difference, the random effects model is more appropriate as it allows for individual effects to be correlated with the predictors. Table 4.7 presents findings of Hausman test performed in this study. These results inform

which model - fixed or random effects - is most suitable for analysis of this specific panel data set.

Table 4.7: Hausman Test

Column	**(b)** Fixed	**(B)** Random
Liquidity	-0.0021052	-0.0008262
Capital Adequacy	0.6908707	0.7140279
Asset Quality	0.1658181	0.2086526
chi2 (3) = (b-B)'[(V_b-V_B) ^(-1)](b-B) = 152.4200		
Prob>chi2 = 0.1091		

Source: Research Data (2023)

Table 4.7 indicated a p-value of 0.1091, which is more than the significance level of 0.05. Hence, research failed to reject null hypothesis, suggesting that the random effects model was indeed the most suitable for this particular analysis. The choice of random effects model carries certain benefits over fixed effects model. Importantly, it allows for the examination of both time-variant and time-invariant variables, while a fixed effects model only looks at variables that change over time. Additionally, the random effects model estimates the variables concurrently, an advantage over the fixed effects model, which tends to increase the standard errors of the coefficient estimates due to estimating a parameter for each unit. Consequently, for a multiple regression analysis aiming to examine the variables simultaneously, random effects model seemed most appropriate choice for this research.

4.4 Correlation Analysis

Correlation analysis was utilized to scrutinize relationship between liquidity, capital adequacy, asset quality, and ROA. This is a statistical method utilized to evaluate the strength and direction of the relationships between two or more variables. Correlation analysis provided insight into how changes in liquidity, capital adequacy, and asset quality may be related to changes in the return on assets of the SACCOs. This approach helped elucidate potential causal relationships and also informed the choice of variables in the subsequent regression analysis. Understanding these relationships is crucial in financial management as it can help SACCOs optimize their strategies for enhancing their financial performance.

Table 4.8: Correlation Analysis

Variable	ROA	Liquidity	Capital Adequacy	Asset Quality
ROA	1.0000			
Liquidity	-0.0497	1.0000		
Capital Adequacy	0.6710	0.0424	1.0000	
Asset Quality	0.5663	0.0125	0.4573	1.0000

Source: Research Data (2023)

Table 4.2 indicates correlation matrix between liquidity, capital adequacy, asset quality and ROA. The correlation between Liquidity and ROA is -0.0497, indicating a very weak negative correlation. This suggests that increases in liquidity do not significantly contribute to improving the ROA of SACCOs in Kenya. It may be inferred that overly emphasizing liquidity might not necessarily translate into improved returns. SACCOs

should aim for a balance, ensuring they have enough liquidity to meet obligations without unnecessarily tying up assets that could be invested more positively elsewhere.

Capital adequacy has a strong positive correlation of 0.6710 with ROA. This shows that SACCOs with bigger capital adequacy ratios tend to have higher ROA. This is indicative of the importance of maintaining a good capital buffer for SACCOs as it not only helps in absorbing potential losses but also contributes to higher returns. Lastly, Asset Quality has a moderately strong positive correlation of 0.5663 with ROA. This shows that higher asset quality contributes to higher ROA. SACCOs with a higher proportion of performing loans (lower Non-performing Loans ratio) are likely to have higher returns. This underscores the need for good credit risk management in SACCOs. These insights can help SACCOs prioritize their strategies to enhance their financial performance.

Results conforms to findings of Shah, Khan and Tahir (2018) who determined that liquidity insignificantly affect profitability. Further, Gweyi, Olweny and Oloko (2018) showed that liquidity negatively influence SACCOs financial performance and Muriithi and Waweru (2017) noted a negative association between commercial banks financial performance and liquidity. Ngeno (2019) established that credit management, risk management, internal financing, managerial capability, and portfolio selection has a positive influence on SACCOs financial performance. Magomere and Otinga (2019) revealed that adequate capital base, minimum capital requirements and relative capital significantly influence ROI of MFIs in Kakamega County. A study carried out by Kamande (2017) determined that management efficiency, earnings ability, liquidity, asset quality, and capital adequacy had substantial effect on ROA which was in line with findings.

4.5 Panel Regression Analysis

The panel regression analysis in Table 4.9 shows the relationship between the variable.

Table 4.9 Panel Regression Results

ROA	Coef.	Std. Err.	z	P>z
Liquidity	-0.0008	0.0025	-0.3300	0.7380
Capital Adequacy	0.7140	0.0241	29.6400	0.0000
Asset Quality	0.2087	0.0184	11.3200	0.0021
Cons	0.1360	0.0056	24.3000	0.0000
R squared=	**0.6265**			
Wald chi2 (3) =	**1351.62**			
Prob=	**0.0000**			

Source: Research Data (2023)

According to the findings, therefore, regression model becomes;

FPit = 0.1360 -0.0008 Liqit + 0.7140 Cait + 0.2087Aqit

Where: FPit = SACCO financial performance measure using return on assets (ROA).

Liqit = SACCO i Liquidity in period t.

Cait = Capital adequacy for SACCO i in period t.

Aqit = Asset Quality of the asset for SACCO i in period t.

The R^2 value of 0.6265 reveals that 62.65% of the variation in financial performance (ROA) can be explained by liquidity, capital adequacy and asset quality. Wald chi2 value of 1351.62 with a probability of 0.0000 suggests that overall model is statistically significant. Coefficient for Liquidity is -0.0008, with a p-value of 0.7380, which is not statistically significant, indicating that changes in liquidity have a negligible impact on

ROA for DTSs. Implication of this finding is that while liquidity management remains crucial for SACCOs' financial stability, it may not be a primary driver of their financial performance in terms of generating higher returns.

The study found that the coefficient for liquidity is -0.0234, with a p-value of 0.2429, suggesting an insignificant negative relationship between liquidity and Return on Assets (ROA). This implies that higher levels of liquidity do not necessarily translate into improved financial performance for Deposit-Taking SACCOs (DTSs) in Kenya. While maintaining adequate liquidity is crucial for meeting short-term obligations and ensuring financial stability, excessive liquidity may be indicative of idle or underutilized assets, thereby negatively impacting profitability. The insignificant relationship highlights the need for DTSs to strike a balance between maintaining sufficient liquidity reserves and efficiently deploying their resources to generate higher returns. Policymakers and regulators should consider providing guidance on optimal liquidity management strategies to enhance the financial performance of DTSs without compromising their overall stability.

The study also found that the coefficient for capital adequacy is 0.7140, with a highly significant p-value of 0.0000, suggesting a strong positive relationship between capital adequacy and ROA. As DTSs maintain higher capital adequacy ratios, they are likely to experience higher ROA. This finding highlights the critical role of adequate capital reserves in enabling DTSs to absorb potential losses, capitalize on profitable opportunities, and maintain financial resilience. Well-capitalized DTSs are better positioned to withstand economic shocks and invest in growth initiatives, ultimately leading to improved financial performance. This result underscores the importance of robust capital management strategies and adherence to regulatory capital requirements

for DTSs. Policymakers and regulators should continue to emphasize the maintenance of adequate capital buffers to promote a stable and profitable SACCO sector.

Besides, the study found that the coefficient for asset quality is 0.2087, with a highly significant p-value of 0.0000, indicating a positive association between asset quality and ROA. DTSs with better asset quality, characterized by lower Non-Performing Loans (NPLs) ratios, tend to achieve higher ROA. This finding emphasizes the essence of effective credit risk management and prudent lending practices in enhancing financial performance. Poor asset quality, represented by higher NPLs, can erode profitability by increasing provisions for loan losses and reducing interest income. DTSs should prioritize robust credit risk assessment, good loan appraisal, monitoring, and collection processes to maintain high-quality loan portfolios. Policymakers and regulators can provide guidance on best practices for credit risk management, loan portfolio diversification, and asset quality monitoring to support the financial performance and stability of the SACCO sector.

The research findings corroborate with those of Ngeno (2019), who established that credit management, risk management, internal financing, managerial capability, and portfolio selection have a positive influence on SACCOs' financial performance. Magomere and Otinga (2019) revealed that an adequate capital base, minimum capital requirements, and relative capital significantly influenced the Return on Investment (ROI) of Microfinance Institutions (MFIs) in Kakamega County. However, the study findings were not supported by Nguyen et al. (2018), who determined that capital adequacy was favorably and significantly associated with Return on Equity (ROE) but insignificantly related to return on Assets (ROA) and the size of assets. Further, studies by Mehta and Bhavani (2017) also contradicted the current study since they established

an insignificant effect of capital adequacy across all measures of profitability.

In addition, Shah, Khan, and Tahir (2018) determined that liquidity insignificantly affects profitability among commercial banks. However, the study findings were contrary to Muheebwa (2018), who performed a study on liquidity of SACCOs in Uganda and the extent to which it relates to the financial performance of the banks and noted that there was a significant association between SACCOs' financial performance and liquidity. Kamau (2017) also investigated the extent to which regulations affected the SACCOs' financial performance in Eldoret, Kenya, and found out that the SACCOs formulated loan provision requirements, enabling them to optimize their long-term financial performance.

The study findings were further not in line with Gweyi, Olweny, and Oloko (2018), who revealed that liquidity negatively affected the SACCOs' financial performance since the majority of SACCOs failed to prioritize the need to manage their liquidity using their own resources besides deposits from the members. The results are further not in agreement with Muriithi and Waweru (2017), who noted a negative and substantial link between commercial banks' financial performance and liquidity. Pelealu and Worang (2017) also revealed that the provisioning of loan losses had a positive insignificant impact on bank profitability.

4.5.1 Discussion of Hypotheses

Hypothesis testing was performed using the panel regression model and ascertained utilizing the p-value.

$H0_1$: Liquidity does not have a significant effect on financial performance of Deposit taking SACCOs in Kenya

Going by the results in table 4.9, the p-value was 0.7380. The study hence failed to reject the null hypothesis. Thus, liquidity does not have a significant impact on financial performance of DTSs. Study findings are supported by Shah, Khan, and Tahir (2018) who determined that liquidity insignificantly affect profitability among the commercial banks. The study findings were however contrary to Muheebwa (2018) who performed study on liquidity of SACCOs in Uganda and the extent to which it relates to the financial performance of the banks and noted that there was significant association between SACCOs financial performance and liquidity. Study findings were further not in line with Gweyi, Olweny and Oloko (2018) who revealed that liquidity negatively affected the SACCOs financial performance since the majority of SACCOs failed to prioritize the need to manage their liquidity using their own resources besides deposits from the members. The results are further not in agreement with Muriithi and Waweru (2017) who noted a negative and substantial link between commercial banks financial performance and liquidity.

$H0_2$: Capital adequacy does not have a significant effect on financial performance of Deposit taking SACCOs in Kenya

In Table 4.9, p value was found to be 0.0000. Therefore, null hypothesis is rejected, indicating that capital adequacy has a substantial effect on financial performance of DTSs. Research findings corroborate with those of Ngeno (2019) who established that credit management, risk management, internal financing, managerial capability, and portfolio selection has a positive influence on SACCOs financial performance. Magomere and Otinga (2019) revealed that adequate capital base, minimum capital

requirements and relative capital significantly influenced the ROI of MFIs in Kakamega County. The study findings were however not supported by Nguyen et al (2018) who determined that capital adequacy was favourably and significantly associated to ROE and insignificantly related to ROA and the size of assets. Further, studies by Mehta and Bhavani (2017) also contradicted the current study since they established an insignificant effect of Capital Adequacy across all the measures of profitability. Musyoka (2017) examined the impact of capital adequacy on financial performance of banks and noted a negative significant link between bank size, capital adequacy and ROA which were contrary to the current study findings.

$H0_3$: Asset quality does not have a significant effect on financial performance of Deposit taking SACCOs in Kenya

In Table 4.9, the p value was noted to be 0.0021. Hence, the null hypothesis is rejected. Thus, asset quality has a substantial effect on financial performance of DTSs. Results corroborate with Kadioglu, Telceken and Ocal (2017) who confirmed that NPLs had a significant relation with banks profit as evaluated by ROA and ROE. Study carried out by Kamande (2017) on the level to which particular aspects affected financial performance of Kenyan financial institutions determined that management efficiency, earnings ability, liquidity, asset quality, and capital adequacy, had a favourable significant impact on ROA. In Indonesia, Pelealu and Worang (2017) also revealed that provisioning of loan loss had a positive insignificant impact on bank profitability. Kamau (2017) also investigated the extent to which regulations affected the SACCOs financial performance in Eldoret Kenya and found out that the SACCOs formulated loan provision requirement which enabled them to optimize their long-term financial

performance. Results from the research did not conform to study by Said (2018) which established that both ROA and ROE had a negative correlation with all the asset quality.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This part offers general view of the specific objectives, and summary of key findings. Additionally, this section outlines conclusions on the findings besides making policy recommendations. Lastly, the chapter captures contributions to knowledge and recommendations for further study.

5.2 Summary of the Findings

5.2.1 Liquidity and Financial Performance

First objective was to explore the effect of liquidity on the financial performance of DTSs in Kenya. Correlation analysis indicated a very weak negative correlation between liquidity and ROA, suggesting that changes in liquidity have minimal effect on financial performance of SACCOs. Moreover, panel regression analysis further supported this finding, revealing a non-significant coefficient for liquidity. This implies that fluctuations in liquidity levels do not significantly impact the profitability of SACCOs. While liquidity management remains essential for ensuring financial stability and meeting short-term obligations, the study's results suggest that maintaining excessively high liquidity levels may not be an effective strategy for maximizing returns. Focusing on prudent liquidity management practices while ensuring that funds are utilized productively can enhance the overall financial performance of SACCOs and contribute to long-term sustainability.

5.2.2 Capital Adequacy and Financial Performance

Second objective was to analyze the impact of capital adequacy on the financial performance of DTSs in Kenya. Correlation analysis revealed a strong positive association between capital adequacy and ROA, indicating that SACCOs with more capital adequacy ratios tend to achieve higher financial performance. This relationship was further confirmed by the panel regression analysis, which presented a highly significant coefficient for capital adequacy. The results underscore the critical role of maintaining a strong capital base for SACCOs. Adequate capital reserves not only enhance financial stability by providing a buffer against potential losses but also enable SACCOs to capitalize on profitable opportunities, leading to improved financial performance. SACCOs, in turn, should focus on capital planning and risk management strategies that align with their growth objectives to optimize their financial performance and support sustainable growth.

5.2.3 Asset Quality and Financial Performance

Third objective was to explore the impact of asset quality on the financial performance of DTSs in Kenya. Correlation analysis demonstrated a relatively strong positive relation between asset quality and ROA, indicating that SACCOs with better asset quality, characterized by lower Non-Performing Loans (NPLs) ratios, tend to achieve higher financial performance. The positive association was further supported by the panel regression analysis, which presented a significant coefficient for asset quality. The results underscore the critical importance of effective credit risk management in SACCOs. By prioritizing asset quality and maintaining a healthy loan portfolio, SACCOs can minimize credit losses and improve their financial performance. SACCOs can further enhance their financial performance by fostering a culture of responsible

lending, rigorous credit analysis, and continuous monitoring of borrower creditworthiness.

5.3 Conclusion

Based on the findings, the study concluded that the correlation analysis and panel regression analysis revealed a weak negative correlation between liquidity and Return on Assets (ROA). The coefficient for liquidity in the regression model was non-significant, suggesting that changes in liquidity levels have a minimal effect on the profitability of Saccos. While liquidity management is crucial for ensuring financial stability and meeting short-term obligations, the study's results imply that maintaining excessively high liquidity levels may not be an effective strategy for maximizing returns. Instead, Saccos should focus on striking a careful balance between liquidity and investment, considering their specific financial objectives and risk appetite.

Furthermore, the findings from the correlation analysis and panel regression analysis indicated a strong positive relationship between capital adequacy and ROA. The regression model demonstrated a highly significant coefficient for capital adequacy, implying that SACCOs with higher capital adequacy ratios tend to achieve higher financial performance. This underscores the critical role of maintaining a strong capital base for SACCOs. Adequate capital reserves not only enhance financial stability by providing a buffer against potential losses but also enable SACCOs to capitalize on profitable opportunities, leading to improved financial performance. Policymakers and regulators should emphasize the importance of adhering to capital adequacy requirements to ensure the overall health and resilience of the SACCO industry.

Moreover, the results from both the correlation analysis and the panel regression analysis indicated a moderately strong positive relationship between asset quality and

ROA. The regression model presented a significant coefficient for asset quality, suggesting that SACCOs with better asset quality, characterized by lower Non-Performing Loans (NPLs) ratios, tend to achieve higher financial performance. This underscores the critical importance of effective credit risk management in SACCOs. By prioritizing asset quality and maintaining a healthy loan portfolio, SACCOs can minimize credit losses and enhance their financial performance.

5.4 Recommendations

For SACCO Management and Employees

The study's findings offer valuable insights for SACCO management and employees, providing guidance on optimizing their operational strategies and decision-making processes. First, it is recommended that SACCOs adopt a balanced approach to liquidity management, striking a delicate equilibrium between maintaining sufficient liquidity reserves to meet short-term obligations and ensuring financial stability, while simultaneously investing excess funds in profitable opportunities or interest-earning assets. By adopting a more dynamic and proactive approach to liquidity management, SACCOs can optimize their financial resources, enhance their returns, and ultimately maximize the wealth of their members.

In addition, SACCO management should prioritize maintaining a robust capital base, as the study highlights the strong positive relationship between capital adequacy and financial performance. Conducting regular capital planning assessments and complying with regulatory requirements will not only enhance financial stability but also position SACCOs to capitalize on growth opportunities and withstand potential losses. Besides, effective credit risk management should be at the forefront of SACCO operations, given the positive correlation between asset quality and financial performance. Implementing

rigorous credit analysis, credit appraisals, monitoring, and reporting systems, as well as establishing appropriate provisioning for potential credit losses, can safeguard SACCOs' financial position and minimize the impact of non-performing loans on their profitability.

For Policymakers and Regulators

The study's findings hold significant implications for policymakers and regulators, as they shed light on the impact of prudential regulations on the financial performance of Deposit-Taking SACCOs. The policymakers and regulators should emphasize the importance of maintaining adequate capital buffers for SACCOs, as the study underscores the critical role of capital adequacy in enhancing financial performance and resilience. Tailoring capital adequacy regulations to the specific needs and risk profiles of SACCOs can support their sustainable growth and contribute to the overall stability of the sector.

Moreover, policymakers should provide guidance and establish best practices for credit risk management, loan portfolio diversification, and asset quality monitoring. By promoting effective credit risk management practices, SACCOs can minimize credit losses, maintain a healthy loan portfolio, and ultimately enhance their financial performance. The policymakers should consider developing comprehensive guidelines and frameworks for liquidity management in SACCOs. While acknowledging the importance of liquidity for financial stability, these guidelines should strike a balance between maintaining sufficient liquidity reserves and encouraging the efficient utilization of financial resources to maximize returns.

For Academicians, Students, and Researchers

The study's findings contribute significantly to the body of knowledge in the SACCO sector, offering academicians, students, and researcher's valuable insights into the intricate relationships between SASRA prudential regulations and financial performance. This study can serve as a foundation for further academic exploration, fostering comparative studies or in-depth investigations into specific aspects of SACCO operations, regulations, and their impact on financial performance. In addition, the study's findings can be incorporated into curriculum development and academic discourse, enriching the educational experience for students and facilitating a deeper understanding of the complexities and nuances of the SACCO sector. Furthermore, researchers can leverage the study's methodology, analytical frameworks, and empirical evidence as a starting point for their own inquiries, potentially leading to the development of new theories, models, or analytical tools tailored to the unique characteristics of the SACCO industry.

5.5 Contribution to Knowledge

This study has made several significant contributions to knowledge in the area of financial management and microfinance institutions. It contributes to the existing literature by examining the association between liquidity and financial performance of DTSs. Findings suggest that while liquidity is essential for financial stability, it may not be a primary driver of financial performance in terms of generating higher returns. This highlights the need for a balanced approach to liquidity management, emphasizing the importance of optimizing liquidity levels to meet short-term obligations while also investing excess funds to maximize returns.

In addition, the study results contribute to the knowledge of the impact of capital adequacy on the financial performance of SACCOs. Findings show a strong positive correlation between capital adequacy and ROA, indicating SACCOs with more capital reserves tend to achieve higher financial performance. This highlights the critical role of maintaining a robust capital base in enabling SACCOs to absorb potential losses and capitalize on profitable opportunities, leading to improved financial performance.

The research offers important insights into the significance of asset quality on financial performance of SACCOs. Findings reveal a relatively strong positive correlation between asset quality and ROA, indicating that SACCOs with better credit risk management practices and lower NPLs ratios tend to achieve higher financial performance. This underscores the essence of effective credit risk management in enhancing financial performance and stability.

Use of Panel Regression Analysis in the Context of SACCOs: It contributes to the methodological aspect by employing panel regression analysis to examine the association between variables in the context of Deposit taking SACCOs. Panel regression allows for the analysis of panel data, observing multiple entities over multiple time periods, providing a more nuanced understanding of the relationships between variables and their collective effect on financial performance.

Findings have significant policy implications for regulators, policymakers, and stakeholders in the SACCOs sector. Policymakers can use the results to develop effective regulations and guidelines that promote prudent liquidity management, capital adequacy, and credit risk management practices. These policies can contribute to a stable and resilient SACCO industry in Kenya and foster sustainable growth. Hence,

the findings contribute to the existing literature on SACCOs and financial performance and serves as a stepping stone for further study in this field.

5.6 Suggestions for Further Research

According to the results, the R^2 value of 0.6265 reveals that 62.65% of the variation in financial performance (ROA) can be described by liquidity, capital adequacy, and asset quality. While this is a considerable percentage of the variation explained by the model, there is still a substantial portion of the variation in ROA that remains unexplained. Therefore, further studies could focus on identifying and exploring additional factors that can influence financial performance of DTSs. Among the recommendations for further research is to examine influence of external factors on financial performance of DTSs. Factors like macroeconomic conditions, regulatory changes, market competition, and technological advancements can all influence the performance of financial institutions. Examining how these external factors interact with liquidity, capital adequacy, and asset quality to impact ROA can offer a detailed knowledge on the drivers of financial performance in the SACCO sector.

Another area of investigation could be the role of governance and management practices in shaping financial performance. Studying effectiveness of SACCO boards and management teams, their risk appetite, and decision-making processes could shed light on how these aspects interact with liquidity, capital adequacy, and asset quality to affect ROA. Understanding the interplay between governance, management practices, and financial performance can guide SACCOs in improving their internal processes and ultimately enhancing their financial performance. Lastly, considering that the research focused on Deposit taking SACCOs in Kenya, further comparative studies could be

conducted to assess the financial performance of other firms such as banks and Non Deposit Taking SACCOs.

REFERENCES

Adamgbo, S. L. C., Toby, A. J., Momodu, A. A., & Imegi, J. C. (2019). Modelling Bank Capital adequacy Dynamics and Liquidity risk management, Empirical evidence from the Nigeria Commercial Banks. International journal of contemporary research review, 10(7), 1976-4852.

Aghabarari, L., Guettler, A., Naeem, M., & Van Doornik, B. (2021). Is there help indeed, if there is help in need? The case of credit unions during the global financial crisis. Economic Inquiry, 59 (3), 1215-1233.

Almagtome, A., & Abbas, Z. (2020). Value relevance of financial performance measures: An empirical study. International Journal of Psychological Rehabilitation,24(7),6777-6791.

Altman, M. (2017). The importance of co-operatives to the New Zealand economy: Constructing a co-operative economy. *International Journal of Social Economics*.

Asquer, A. (2018). Theories of regulation. *Regulation of Infrastructure and Utilities*, 19-33.

Bank, African Journal of Business Management, 7(30) 2938-2950.

Barus, J. J., Muturi, W., Kibati, P., & Koima, J. (2017). Effect of liquidity on Financial Performance of Savings and Credit Societies in Kenya. *International Journal of Finance*, *2*(7), 34-47.

Basterretxea, I., Cornforth, C., & Heras-Saizarbitoria, I. (2020). Corporate governance as a key aspect in the failure of worker cooperatives. *Economic and Industrial Democracy*, 0143831X19899474.

Bloomfield, J., & Fisher, M. J. (2019). Quantitative research design. *Journal of the Australasian Rehabilitation Nurses Association*, *22*(2), 27-30.

Buluma, F. C. O., Kung'u, J., & Mungai, F. N. (2017). Effect of SASRA regulations on financial performance of Nyandarua County's deposit taking SACCOs in Kenya. *International Journal of Economics, Commerce and Management*, *5*(7), 614-636.

Bunyaminu, A., Bashiru, S., Amadu, I. M., Yakubu, I. N., & Iddrisu, A. J. (2021). Investigating The Impact of Capital Adequacy Ratio and Corruption on Bank Risk-Taking in Ghana. *Academy of Accounting and Financial Studies Journal*, *25*(4), 1-7.

Carlson, H. (2018). Client Protection Regulations for Microfinance Institutions in Ghana, Kenya, and Tanzania.

Chauvet, G. (2020). A Note on Chromy's Sampling Procedure. *Journal of Survey Statistics and Methodology*.

Chen, Y. (2016). Spatial autocorrelation approaches to testing residuals from least squares regression. *PloS one*, *11*(1), e0146865.

Chodorow-Reich, G., Darmouni, O., Luck, S., & Plosser, M. (2021). Bank liquidity provision across the firm size distribution. *Journal of Financial Economics*.

Daoud, J. I. (2017). Multicollinearity and regression analysis. In *Journal of Physics: Conference Series* (Vol. 949, No. 1, p. 012009). IOP Publishing.

Feather, C., & Meme, C. K. (2019). Strengthening housing finance in emerging markets: the savings and credit Co-operative organization (SACCO) model in Kenya. *Housing Studies*, *34*(9), 1485-1520.

Gweyi, M. O. (2018). *Influence of Financial Risk on Financial Performance of Deposit Taking Savings and Credit Co-operatives in Kenya* (Doctoral dissertation, JKUAT-COHRED).

Hadri, K. (2000). Testing for stationarity in heterogeneous panel data. *The Econometrics Journal*, *3*(2), 148-161.

Hamdillah, D. N., Purwanto, B., & Ermawati, W. J. (2021). The Effect of Asset Quality and Financial Performance on Non-Performing Loans (NPLs) of Rural Banks in Indonesia.

Hantke-Domas, M. (2003). The public interest theory of regulation: non-existence or misinterpretation? *European journal of law and economics*, *15*(2), 165-194.

Ikpefan O.A (2013) Capital Adequacy, Management and Performance in Nigeria Commercial

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, *3*(4), 305-360.

Kadioglu, E., Telceken, N., & Ocal, N. (2017). Effect of the asset quality on the bank profitability. *International Journal of Economics and Finance*, *9*(7), 60-68.

Kamande, E. G. (2017). *The effect of bank specific factors on financial performance of commercial banks in Kenya* (Doctoral dissertation).

Kamau, P. M. (2017). Effects of SACCOs Societies Regulatory Authority's Regulation on the Financial Performance of SACCOs in Eldoret Kenya.

Kavulya, P. W., Muturi, W., Rotich, G., & Ogollah, K. (2018). Effect of customer focus strategy on the performance of SACCOs in Kenya. *International Journal of Business Strategies*, *3*(1), 1-16.

Khatun, N. (2021). Applications of normality test in statistical analysis. *Open Journal of Statistics*, *11*(01), 113.

Kiyieka, E. N., & Muturi, W. (2018). Effect of internal controls on financial performance of deposit taking saving and credit cooperative societies in Kisii County, Kenya. *International Journal of Social Sciences and Information Technology*, *4*(10), 30-40.

Knottnerus, J. A., & Muris, J. W. (2003). Assessment of the accuracy of diagnostic tests: the cross-sectional study. *Journal of clinical epidemiology*, *56*(11), 1118-1128.

Kyazze, L. M., Nkote, I. N., & Wakaisuka-Isingoma, J. (2017). Cooperative governance and social performance of cooperative societies. *Cogent Business & Management*, *4*(1), 1284391.

Magomere, F. A., & Otinga, H. N. (2019). Effect of loan loss provisioning, capital adequacy and cost of operations on financial performance of micro finance institutions in Kakamega County, Kenya. *The Strategic Journal of Business & Change Management*, *6*(1), 200-219.

Masika, D., & Simiyu, E. (2019). Effect of Firm Characteristics on Financial Performance of Deposit Taking SACCOs Licensed by SASRA in Nairobi, Kenya. *African Journal of Emerging Issues*, *1*(4), 48-73.

Mbugua, J. W., & Kinyua, G. M. (2020). Service Differentiation and Organization Performance: An Empirical Analysis of Deposit Taking SACCOs in Nairobi City County, Kenya. *Journal of Business and Economic Development*, *5*(2), 64-72.

Mehta, A., & Bhavani, G. (2017). *What Determines Banks' Profitability? Evidence from Emerging Markets-The Case of the UAE Banking Sector*. Dubai: Institute of Management Technology.

Muheebwa, F. (2018). The Influence of Liquidity on the Financial Performance of SACCOs in Uganda. *Journal of Economics*, *3*(2), 55-70.

Muriuki, P. (2019). Promoting Financial Inclusion: How credit unions are bringing financial inclusion to marginalized communities. *Washington, DC: World Council of Credit Unions*.

Musah, M., & Kong, Y. (2019). The relationship between liquidity and the financial performance of non-financial firms listed on the Ghana stock exchange (GSE). *International Journal of Advanced Research in Management and Social Sciences*, *8*(4), 1-34.

Musyoka, B. K. (2017). *The effect of capital adequacy on the financial performance of commercial banks in Kenya* (Doctoral dissertation, University of Nairobi).

Mutinda, N. D. (2019). *Effect of prudential regulatory standards on the financial performance of deposit taking SACCOS in Kenya* (Doctoral dissertation).

Mutitu, L. (2017). *Challenges in Strategy Implementation at SACCO Societies Regulatory Authority in Kenya* (Doctoral dissertation, University of Nairobi).

Mwaura, M. W. (2018). *Impact of Agency Banking on the Operational Efficiency of Savings and Credit Co-operative Societies in Kiambu County, Kenya* (Doctoral dissertation, University of Nairobi).

Ngeno, J. C. (2019). *Capital adequacy framework, funds allocation strategy and financial performance of deposit taking SACCO's in Kenya* (Doctoral dissertation, KeMU).

Ngui, A. M., & Jagongo, A. (2017). Capital Adequacy and Financial Performance of Deposit taking Savings and Credit Cooperative Societies in Kenya. *International Journal of Social Science and Humanities Research*, *5*(4), 596-604.

Nguyen, D., Thanh, H., & Nguyen, H. (2018). What Determines the Profitability of Vietnam Commercial Banks? *International Business Research, 11*(2), 231-245.

Njenga, R., & Jagongo, A. (2019). Effect of financial management decisions on financial performance of selected non-deposit taking SACCOs in Kiambu County, Kenya: Theoretical Review. *International Academic Journal of Economics and Finance, 3*(3), 204-217.

Odero, J., Egessa, R., & Oseno, B. (2020). Influence of Employee Empowerment on Performance: Evidence from Deposit Taking SACCOs in Kenya.

Oliech, M., & Owoko, R. (2018). Co-operation between cooperatives in East Africa: The impact of the East African Community Cooperative Societies Act, 2014. *African Journal of Co-operative Development and Technology*, *3*(1), 51-57.

Omona, J. (2021). Poverty eradication and wealth creation: The role and challenges of savings and credit cooperatives (SACCOs) in Uganda. *African Journal of Business Management*, *15*(8), 198-210.

Onyango, C. (2018). *Effect of capital adequacy on the financial performance of deposit taking savings and credit societies in Meru County, Kenya* (Doctoral dissertation, University of Nairobi).

Panda, B., & Leepsa, N. M. (2017). Agency theory: Review of theory and evidence on problems and perspectives. *Indian Journal of Corporate Governance*, *10*(1), 74-95.

Pelealu, I. W., & Worang, F. G. (2017). Analysis the Effect of Loan Loss Provision on Bank Profitability. *Journal EMBA: Journal Riset Ekonomi, Management, Basins dan Akuntansi*, *6*(4).

Quinlan, C., Babin, B., Carr, J., & Griffin, M. (2019). *Business research methods*. Southwestern Cengage.

Rosopa, P. J., Schaffer, M. M., & Schroeder, A. N. (2013). Managing heteroscedasticity in general linear models. *Psychological methods*, *18*(3), 335.

SACCO Societies Regulatory Authority (SASRA) (2022). The SACCO Supervision Annual Report, 2021.

Said, A. (2018). Effect of the asset quality on the bank profitability: A study of US Commercial Small Banks. *International Research Journal of Applied Finance*, *9*(4), 196-204.

Shah, S. Q. A., Khan, I., Shah, S. S. A., & Tahir, M. (2018). Factors affecting liquidity of banks: Empirical evidence from the banking sector of Pakistan. *Colombo Business Journal*, *9*(1), 1-18.

Sheytanova, T. (2015). The accuracy of the Hausman Test in panel data: A Monte Carlo study.

Shibutse, R., Kalunda, E., & Achoki, G. (2019). Effect of Liquidity and Dividend Payout on Financial Performance of Deposit Taking SACCOs in Kenya.

Steelman, Z. R., Hammer, B. I., & Limayem, M. (2014). Data collection in the digital age. *Mis Quarterly*, *38*(2), 355-378.

Vitolla, F., Raimo, N., & Rubino, M. (2020). Board characteristics and integrated reporting quality: an agency theory perspective. *Corporate Social Responsibility and Environmental Management*, *27*(2), 1152-1163.

Wambua, V. M., Waweru, K. M., & Kihoro, J. M. (2021). Influence of Capital Adequacy on the Loan Performance of Deposit Taking SACCOs in Kenya. *African Journal of Co-Operative Development and Technology*, *6*(1), 1-10.

Zhou, X. H., McClish, D. K., & Obuchowski, N. A. (2009). *Statistical methods in diagnostic medicine*. John Wiley & Sons.

Žukauskas, P., Vveinhardt, J., & Andriukaitienė, R. (2018). Philosophy and paradigm of scientific research. *Management Culture and Corporate Social Responsibility*, *121*.

APPENDICES

Appendix I: Letter of Transmittal

Kamau Antony Gatu

P.O.BOX 123 001030

GATUNDU

Dear Sir/Madam,

REF: DATA COLLECTION

My name is Antony Gatu Kamau admission No. **D58/CTY/PT/25565/2013,** a Master of Science in Finance student in Kenyatta University undertaking a research study on **SACCO Societies Regulatory Authority Prudential Regulations on Financial Performance of Deposit Taking SACCOs in Kenya.** This template is meant to assist in obtaining information that will enable to conduct the study. Kindly respond to the issues in the template as truly as possible. This is academic study whose data and information shall be strictly confidential and strict ethical principles to make sure the study findings does not expose any of the respondents.

Thank you as you prepare to respond.

Best Regards

Sign…….

Antony Gatu

Appendix II: Kenyatta University Graduate School Authorization

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 020-8704150

Internal Memo

FROM: Executive Dean, Graduate School DATE: 22nd November, 2022

TO: Mr. Kamau Antony Gatu REF: D58/CTY/PT/25565/2013
C/o Department of Accounting & Finance

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

This is to inform you that Graduate School Board, at its meeting on 8th November, 2022, approved your Research Proposal for the M.Sc. Degree entitled, **"Sasra Prudential Regulations and Financial Performance of Deposit Taking Savings and Credit Co-Operative Societies in Kenya."**

You may now proceed with your Data collection, subject to clearance with the Director General, National Commission for Science, Technology & Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking and Progress Report Forms per semester. The forms are available at the University's Website under Graduate School webpage downloads.

Also, please ensure that you publish article(s) from your thesis before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

Thank you.

JULIA GITU
FOR: EXECUTIVE DEAN, GRADUATE SCHOOL

CC. Chairman, Department of Accounting & Finance
Supervisors:

1. Dr. Caroline Kimutai
   C/o Department of Accounting & Finance
   Kenyatta University
2. Prof. Bernard Njehia
   C/o Department of Agricultural Economics
   Kenyatta University

JG/cww

Appendix III: Data extraction template

Number	**DTS**	**Year**	**Financial Performance**	**Liquidity**	**Capital adequacy**	**Asset Quality**
			ROA	Liquid assets/members deposits	Core capital/total assets	NPLs/Gross loans
1.	1	2014				
2.	1	2015				
3.	1	2016				
4.	1	2017				
5.	1	2018				
6.	1	2019				
7.	1	2020				
8.	1	2021				
9.	2	2014				
10.	2	2015				
11.	2	2016				
12.	2	2017				
13.	2	2018				
14.	2	2019				
15.	2	2020				
16.	2	2021				
.	.	.				
.	.	.				
.	.	.				
1400	175	2021				

Appendix IV: Licensed SACCOs in Kenya as of 31st December 2021

1. 2NK SACCO Society Ltd P.O. Box 12196 10109 Nyeri.
2. Acumen SACCO Society Ltd P.O. Box 1325 00200 Nairobi.
3. Afya SACCO Society Ltd P.O. Box 11607 00400 Nairobi.
4. Agro-Chem SACCO Society Ltd P.O. Box 94 40107 Muhoroni.
5. Ainabkoi SACCO Society Ltd P.O. Box 120 30101 Ainabkoi.
6. Airports SACCO Society Ltd P.O. Box 19001 00501 Nairobi.
7. Amica SACCO Society Ltd P.O. Box 816 10200 Murang'a.
8. Ammar SACCO Society Ltd P.O. Box 6957 01000 Thika.
9. Ardhi SACCO Society Ltd P.O. Box 28782 00200 Nairobi.
10. Asili SACCO Society Ltd P.O. Box 49064 00100 Nairobi.
11. Azima SACCO Society Ltd P.O. Box 1124 01000 Thika.
12. Bandari SACCO Society Ltd P.O. Box 95011 80104 Mombasa.
13. Baraka SACCO Society Ltd P.O. Box 1548 10101 Karatina.
14. Baraton University SACCO Society Ltd P.O. Box 2500 30100 Eldoret.
15. Biashara SACCO Society Ltd P.O. Box 1895 10100 Nyeri.
16. Biashara Tosha SACCO Society Ltd P.O. Box 189 60101 Manyatta.
17. Bi-High SACCO Society Ltd P.O. Box 90 60500 Marsabit.
18. Bigwa SACCO Society Ltd P.O. Box 434 10300 Kerugoya.
19. Boresha SACCO Society Ltd P.O. Box 20103 Eldama Ravine.
20. Capital SACCO Society Ltd P.O. Box 1479 60200 Meru.
21. Centenary SACCO Society Ltd P.O. Box 1207 60200 Meru.
22. Chai SACCO Society Ltd P.O. Box 278 00200 Nairobi.
23. Chuna SACCO Society Ltd P.O. Box 30197 00100 Nairobi.
24. Comoco SACCO Society Ltd P.O. Box 3334 00200 Nairobi.
25. Cosmopolitan SACCO Society Ltd P.O. Box 1931 20100 Nakuru.
26. County SACCO Society Ltd P.O. Box 21 60103 Runyenjes.
27. Daima SACCO Society Ltd P.O. Box 2032 60100 Embu.
28. Dhabiti SACCO Society Ltd P.O. Box 353 60600 Maua.
29. Dimkes SACCO Society Ltd P.O. Box 886 00900 Kiambu.
30. Dumisha SACCO Society Ltd P.O. Box 84 20600 Maralal.
31. Eco-pillar SACCO Society Ltd P.O. Box 48 30600 Kapenguria.
32. Egerton SACCO Society Ltd P.O. Box 178 20115 Egerton.
33. Elimu SACCO Society Ltd P.O. Box 10073 00100 Nairobi.
34. Enea SACCO Society Ltd P.O. Box 1836 10101 Karatina.
35. Faridi SACCO Society Ltd P.O. Box 448 50400 Busia.
36. Fariji SACCO Society Ltd P.O. Box 589 00216 Githunguri.
37. Fortitude SACCO Society Ltd P.O. Box 237 40305 Mbita.
38. Fortune SACCO Society Ltd P.O. Box 559 10300 Kerugoya.
39. Fundilima SACCO Society Ltd P.O. Box 00200 Nairobi.
40. GDC SACCO Society Ltd P.O. Box 896 00216 Githunguri.
41. Golden Pillar SACCO Society Ltd P.O. Box 3192 60200 Meru.
42. Good Faith SACCO Society Ltd P.O. Box 224 00222 Uplands.
43. Goodhope SACCO Society Ltd P.O. Box 158 20500 Narok.
44. Goodway SACCO Society Ltd P.O. Box 626 10300 Kerugoya.
45. Gusii Mwalimu SACCO Society Ltd P.O. Box 1335 40200 Kisii.
46. Harambee SACCO Society Ltd P.O. Box 47815 00100 Nairobi.

47.Hazina SACCO Society Ltd P.O. Box 59877 00200 Nairobi.
48. IIkisonko SACCO Society Ltd P.O. Box 91 00209 Loitokitok.
49. Imarika SACCO Society Ltd P.O. Box 712 80108 Kilifi.
50. Imarisha SACCO Society Ltd P.O. Box 682 20200 Kericho.
51. Invest and Grow (IG) SACCO Society Ltd P.O. Box 1150 50100 Kakamega.
52. Jacaranda SACCO Society Ltd P.O. Box 1767 00232 Ruiru.
53. Jamii SACCO Society Ltd P.O. Box 57929 00200 Nairobi.
54. Jitegemee SACCO Society Ltd P.O. Box 86937 80100 Mombasa.
55. Joinas SACCO Society Ltd P.O. Box 669 00219 Karuri.
56. Jumuika SACCO Society Ltd P.O. Box 14 40112 Awasi.
57. Kencream SACCO Society Ltd P.O. Box 300131 00200 Nairobi.
58. Kenpipe SACCO Society Ltd P.O. Box 314 00507 Nairobi.
59. Kenversity SACCO Society Ltd P.O. Box 10263 00100 Nairobi.
60. Kenya Achievas SACCO Society Ltd P.O. Box 3080 40200 Kisii.
61. Kenya Bankers SACCO Society Ltd P.O. Box 73236 00200 Nairobi.
62. Kenya Highlands SACCO Society Ltd P.O. Box 2085 002000 Kericho.
63. Kenya Midland SACCO Society Ltd P.O. Box 287 20400 Bomet.
64. Kenya Police SACCO Society Ltd P.O. Box 51042 00200 Nairobi.
65. Kimbilio Daima SACCO Society Ltd P.O. Box 81 20225 Kimulot.
66. Kimisitu SACCO Society Ltd P.O. Box 10454 00200 Nairobi.
67. Kingdom SACCO Society Ltd P.O. Box 8017 00300 Nairobi.
68. Kipsigis Edis SACCO Society Ltd P.O. Box 228 20400 Bomet.
69. Kite SACCO Society Ltd P.O. Box 2073 40100 Kisumu.
70. Kitui Teachers SACCO Society Ltd P.O. Box 254 90200 Kitui.
71. Kolenge Tea SACCO Society Ltd P.O. Box 291 30301 Nandi Hills.
72. Koru SACCO Society Ltd P.O. Box Private Bag 40100 Koru.
73. K-Pillar SACCO Society Ltd P.O. Box 83 20403 Mogogosiek.
74. K-unity SACCO Society Ltd P.O. Box 268 00900 Kiambu.
75. Kwetu SACCO Society Ltd P.O. Box 818 90100 Machakos.
76. Lainisha SACCO Society Ltd P.O. Box 272 10303 Wang'uru.
77. Lamu Teachers SACCO Society Ltd P.O. Box 110 80500 Lamu.
78. Lengo SACCO Society Ltd P.O. Box 1005 80200 Malindi.
79. Mafanikio SACCO Society Ltd P.O. Box 86515 80100 Mombasa.
80. Magadi SACCO Society Ltd P.O. Box 13 00205 Magadi.
81. Magereza SACCO Society Ltd P.O. Box 53131 00200 Nairobi.
82. Maisha Bora SACCO Society Ltd P.O. Box 30062 00100 Nairobi.
83. Mentor SACCO Society Ltd P.O. Box 789 10200 Murang'a.
84. Metropolitan National SACCO Society Ltd P.O. Box 871 00900 Kiambu.
85. MMH SACCO Society Ltd P.O. Box 469 60600 Maua.
86. Mombasa Port SACCO Society Ltd P.O. Box 95372 80104 Mombasa.
87. Mudete Factory Tea Growers SACCO Society Ltd P.O. Box 398 20318 North Kinangop.
88. Muki SACCO Society Ltd P.O. Box 398 20318 North Kinangop.
89. Mwalimu National SACCO Society Ltd P.O. Box 62641 00200 Nairobi.
90. Mwietheri SACCO Society Ltd P.O. Box 2445 60100 Embu.
91. Mwito SACCO Society Ltd P.O. Box 56763 00200 Nairobi.
92. Nacico SACCO Society Ltd P.O. Box 34525 00100 Nairobi.
93. Nafaka SACCO Society Ltd P.O. Box 30586 00100 Nairobi.

94. Nandi Farmers SACCO Society Ltd P.O. Box 333 30301 Nandi Hills.
95. Nanyuki Equator SACCO Society Ltd P.O. Box 1098 10400 Nanyuki.
96. Nation SACCO Society Ltd P.O. Box 22022 00400 Nairobi.
97. Nawiri SACCO Society Ltd P.O. Box 400 60100 Embu.
98. Ndege Chai SACCO Society Ltd P.O. Box 857 20200 Kericho.
99. Ndosha SACCO Society Ltd P.O. Box 532 60401 Chogoria maara.
100. New Forties SACCO Society Ltd P.O. Box 1939 10100 Nyeri.
101. Nexus SACCO Society Ltd P.O. Box 251 60202 Nkubu.
102. Ng'arisha SACCO Society Ltd P.O. Box 1199 50200 Bungoma.
103. Noble SACCO Society Ltd P.O. Box 3466 30100 Eldoret.
104. NRS SACCO Society Ltd P.O. Box 575 00902 Kikuyu.
105. NSSF SACCO Society Ltd P.O. Box 43338 00100 Nairobi.
106. Nufaika SACCO Society Ltd P.O. Box 735 10300 Kerugoya.
107. Nyala Vision SACCO Society Ltd P.O. Box 20306 Ndaragwa.
108. Nyambene Arimi SACCO Society Ltd P.O. Box 493 60600 Maua.
109. Nyamira Tea Farmers SACCO Society Ltd P.O. Box 633 40500 Nyamira.
110. Nyati SACCO Society Ltd P.O. Box 7601 00200 Nairobi.
111. Ollin SACCO Society Ltd P.O. Box 83 10300 Kerugoya.
112. Orient SACCO Society Ltd P.O. Box 1842 01000 Thika.
113. Patmas SACCO Society Ltd P.O. Box 601 20210 Litein.
114. Prime Time SACCO Society Ltd P.O. Box 512 30700 Iten.
115. Puan SACCO Society Ltd P.O. Box 404 20500 Narok.
116. Qwetu SACCO Society Ltd P.O. Box 1186 80304 Wundanyi.
117. Rachuonyo Teachers SACCO Society Ltd P.O. Box 147 40332 Kosele.
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125. Smart Champions SACCO Society Ltd P.O. Box 64 60205 Githingo.
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127. Solution SACCO Society Ltd P.O. Box 1694 60200 Meru.
128. Sotico SACCO Society Ltd P.O. Box 959 20406 Sotik.
129. Southern Star SACCO Society Ltd P.O. Box 514 60400 Chuka.
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136. Tabasuri SACCO Society Ltd P.O. Box 80862 80100 Mombasa.
137. Tai SACCO Society Ltd P.O. Box 718 00216 Githunguri.
138. Taifa SACCO Society Ltd P.O. Box 1649 10100 Nyeri.
139. Taqwa SACCO Society Ltd P.O. Box 10180 00100 Nairobi.
140. Taraji SACCO Society Ltd P.O. Box 605 40600 Siaya.
141. Telepost SACCO Society Ltd P.O. Box 49557 00100 Nairobi.

142. Tembo SACCO Society Ltd P.O. Box 91 00618 Ruaraka.
143. Tenhos SACCO Society Ltd P.O. Box 391 20400 Bomet.
144. Thamani SACCO Society Ltd P.O. Box 467 60400 Chuka.
145. The Apple SACCO Society Ltd P.O. Box 153 50305 Sirwa.
146. Times U SACCO Society Ltd P.O. Box 310 60202 Nkubu.
147. Tower SACCO Society Ltd P.O. Box 259 20303 Olkalou.
148. Trans Elite County SACCO Society Ltd P.O. Box 547 30300 Kapsabet.
149. Trans Nation SACCO Society Ltd P.O. Box 15 60400 Chuka.
150. Trans Counties SACCO Society Ltd P.O. Box 2965 30200 Kitale.
151. Trans National Times SACCO Society Ltd P.O. Box 2274 30200 Kitale.
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155. Ukulima SACCO Society Ltd P.O. Box 44071 00100 Nairobi.
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Source: SASRA (2021)

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