ASSESSING EFFECTS OF PEARLS ON FINANCIAL PERFORMANCE OF DEPOSIT TAKING SAVINGS AND CREDIT CO-OPERATIVE SOCIETIES IN KENYA

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DECLARATION AND APPROVAL

Declaration by the student

This research project is my original work and has not been presented for a degree in any other University or for any other award.

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Approval by the supervisor

I confirm that the work reported in this research project was carried out by the candidate under my supervision

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DEDICATION

I dedicate my research work to my parents, John Maina Wanjohi and Licadah Wambui Gitonga, and siblings Jackson W Maina and Margaret W Maina for their prayers, encouragement and for sponsoring my academics. God bless you.

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ABSTRACT

Even though DT-SACCOs in Kenya work extremely hard, their financial performance is greatly impacted by deteriorating level of capital sufficiency, liquidity, and asset quality which adversely affects their financial performance significantly. It is still difficult for each DT-SACCO to fully comply with capital adequacy regulations, negatively impacting their financial performance. This has led to collapse of Five DT-SACCOs and licenses revoked. Notwithstanding, WOCCU has recommended the PEARLS framework to assist DT-SACCOS in mitigating credit risk management problems that are harming financial performance. In spite of an abundance of research on PEARLS and financial performance, conclusive findings about PEARLS's effect on DT-SACCOs' financial performance in Kenya remain to be seen. This because majority of empirical study have conceptual gaps while some have contextual gaps and methodological gaps in addition to inconsistent result. This suggests that the empirical evidence on the use of PEARLS among Kenyan DT-SACCOs for assuring financial performance. The current study assessed how the chosen PEARLS which were regarded as impacting on the financial performance of Kenyan DT-SACCOs in an effort to close the knowledge gap. The specific objective to guide the study has been to find out the effect of; protection, effective financial structures, asset quality, and liquidity affect financial performance of Kenyan Deposit Taking Savings and credit co-operative societies. The underlying theories were Financial Growth Theory, Risk Management Theory, Loanable Funds Theory, Modern Portfolio Theory, and Balanced Portfolio Theory. The research used a quantitative approach, which led to the adoption of the positivist paradigm and a correlational research design. The 181 DT-SACCOs that operated in Kenya between 2018 and 2022 were the target population. From this population a sample of 126 respondents was obtained using the formula by Yaman. A data collecting sheet was used to collect data from secondary sources. Content analysis and Cronbach's Alpha were used to evaluate the data collection document's validity and reliability, respectively. The study concludes that; protection has a statistically significant positive effect financial performance of Kenyan DT-SACCOs ($p < 0.01; \beta = 0.487$), financial structure among Kenyan DT-SACCOs has a statistically positive effect on financial performance of Kenyan DT-SACCOs ($p < 0.01; \beta = 0.159$), assets quality has a statistically significant positive effect on financial performance of Kenyan DT-SACCOs ($p = .011; \beta = 0.076$) and liquidity ratio has a positive effect on financial performance of Kenyan DT-SACCOs ($p < 0.01; \beta = 0.140$). This research suggests that Kenyan DT-SACCOs should use the PEARLS rating model in order to identify components that need extra care. These DT-SACCOs should establish the best investment approach for managing protection for their assets while the asset portfolio value needs to be increased while keeping protection at the optimal minimum value and at a level that is already beyond the required threshold, DT-SACCOs should make sure that the supervisory function enhances effective financial structure and they should give special consideration to their liquidity management, loan monitoring, and loan recovery.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
BoP	Bottom of the Pyramid
CAMELS	Capital Adequacy, Asset Quality, Management, Earnings, Liquidity, And Sensitivity
CBK	Central Bank of Kenya
CLRM	Classical Linear Regression Model
IVs	Independent Variables
MKU	Mount Kenya University
MPT	Modern Portfolio Theory
NACOSTI	National Council of Science and Technology
PEARLS	Protection, Effective Financial Structure, Asset Quality, Rate of Return & Cost, Liquidity, Signs of Growth
PI	Protection Index
ROA	Returns on Assets
ROE	Return on Equity
SPSS	Statistical Package for Social Sciences
WOCCU	World Council of Credit Unions

CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter contains the background information of the study explaining the key concepts and their measurements, describing the problem which necessitated the study, objectives of the study, significance, scope limitations and delimitations as the assumptions made and the they way the variables were defined.

1.2 Background of the Study

In developing nations, institutions of funding play an indispensable part in ensuring a stable monetary and economic framework, with bank loans being essential to the nation's growth in economy (Millan, Kamau & Ibua, 2023)). Because of this, the finance industry is essential to the efficient operation of the economies of all nations. Currently, the next frontier for empowering individuals within the Bottom of the Pyramid (BoP) society is Deposit Taking Savings and Credit Cooperatives (DT-SACCOs) (Fundi & Wamugo, 2023). Through lending to immediate borrowers on the asset side and providing liquidity on the liability side, this DT-SACCO sector helps the economy function (Mohammad, Asutay, Dixon, & Platonova, 2020). It is essential in providing the low- and middle-income segments in the economy with loan products at comparably reduced interest rates (Otwoko, Maina, & Kwasira, 2021; Wanjiru & Jagongo, 2022)).

By combining member deposits, they fulfil their mandate. Occasionally, they borrow money from outside sources to fund capital projects and meet member loan requests. Given that lending organizations primarily generate revenue from interest-related activities, DT-SACCOs need to comprehend the manner in which governance impacts financial performance in order to maximize the value of their shareholders (Arif, 2020; Waweru, 2018). With its credit and saving initiatives, DT-SACCOs are emerging as a significant tool for socioeconomic development among people underserved by the mainstreaming dominant industry (Wanjiru & Jagongo, 2022).

Globally, Saghi-Zedek (2015) states that the majority of SACCOs worldwide reap additional earnings from non-core lending operations. SACCOS are not only essential development tools but also play other important roles in society. As an example, it is believed that co-ops employ more than one hundred million people worldwide, while their individual membership count is at 800 million. According to reports, the global turnover of the top 300 cooperatives in 2006 was $963 billion, or the GDP of Canada.

Regionally, in Africa, Landi (2017) examined the impact of investment choices on DT-SACCO profitability. They have a direct impact on revenue growth and profitability, Tangdialla and Sanda (2021) discovered that financial institutions saw an increase in earnings as they began making diverse kinds of investments. Based on reports, about 7% of Africans are members of a cooperative affiliation. In addition, the findings indicate that despite the movements' enormous size, they are restricted by the lack of effective representation. Compared to average growth rates for savings during the previous years, it is anticipated that SACCOS savings in Sub-Saharan Africa increased by 32% in 2008. Compared to previous

years, there was a 12% decrease in average loan growth. Compared to this, loans granted increased by 21% and 35% in 2006 and 2007, respectively. Additionally, the number of new members has consistently increased. SACCOS in Africa appear to have acted cautiously when granting loans to members who apply for them, based on the decline in the marginal growth of loans issued Additionally, it has been stated that loans related to export goods have been reduced because of the necessity to protect against losses.

In Kenya, DT-SACCOS invests in a range of strategies to enhance their financial performance, much like every other financial institution (Ogum & Jagongo, 2022). It is intriguing to look into how these investments impact their financial success because of this. A DT-SACCO needs to choose which projects to invest in in order to determine each one's viability or profitability. This is known as an investment choice. Investment decisions have great importance for a business, as they impact profitability, growth, and risk management, ultimately deciding the business's worth. Given that they can impact the risks faced by the firms and have a long-term impact on growth, these investment decisions consequently require special consideration (Wanjiru & Jagongo, 2022). Additionally, they require a large financial commitment.

Also, it is critical to understand that once these choices are taken, they cannot be undone, or if they can, there would be severe losses and the financial performance of the firm would suffer significantly. Investment decisions are a crucial component of strategic decision-making for any financial institution, as each choice made has had an effect on the business's long-term financial success. In accordance with the study by (Ogum & Jagongo, 2022) investment choices led to higher DT-SACCOs' financial performance.

However, significant number of Kenyan DT-SACCOs have suffered a decline in their financial performance due to unanticipated loan management problems (Fundi & Wamugo, 2023; Wanjiru & Jagongo, 2022; Mogga, Mwambia, & Kithinji, 2018). DT-SACCO loan requirements have adversely affected their financial performance, causing members' unhappiness as a result of performance falling short of expectations (Muthee & Theuri, 2021; Gweyi, 2018). This is happening in spite of the stringent prudential standards for credit management that the Sacco Societies Regulatory Authority [SASRA], the arm overseeing DT-SACCO, has established (Maina & Otwoko, 2021)). Due to this, their loan functionality has been a crucial tool for boosting their financial performance in terms of profitability (Bianchi & Bigio, 2022; Oluoch & Nduati, 2021).

However, the World Council of Credit Unions (WOCCU) recommends using the PEARLS (Protection, Effective Financial Structure, Asset Quality, Rates of Return and Costs, Liquidity, and Signs of Growth) approach whenever evaluating the financial health of credit unions and savings and credit cooperative societies (SACCOs) (Juma & Maseko, 2022). Yet There is disagreement among practitioners over which PEARLS ratios are essential and should be utilized for evaluating financial performance, despite the PEARLS method's intention to solve the shortcomings of current methodologies (Silva, Santos & Neto, 2023; Esomar & Titioka; 2021; Simkhada, 2017).

1.2.1 Financial Performance

In accordance with Gweyi, Olweny, and Oloko (2018), financial performance is the degree to which they achieve their financial goals. An organization's ability to make money from its main business is determined by how well it performs financially. The measures used to

evaluate changes in the overall aggregate performance are still based on SASRA (2022) guidelines it comprises the assets, savings, loan reserves, and share capital owned by the members. In order to determine whether a SACCO is making a profit, management uses financial performance in DT- SACCOs (Baraza, 2018). A DT-SACCO that is performing well draws new members, which leads to an increase in the number of deposits.

Furthermore, researchers typically use one of metrics comprising of Return on Equity (ROE) and other times or concurrently, return on assets (ROA) (Panigrahi. & Vachhani, 2021). Since ROA and ROE indicators are among the most effective and readily available, their use in assessing firm performance is justified (Lakshmi, 2019)). In order to evaluate the performance of businesses accounting metrics frequently employed are ROE and ROE (Panigrahi. & Vachhani, 2021).

In accordance with Rohmatawati and Shenurti (2020), ROA is a measurement used to assess a firm's performance. It compares net income, or profit before interest and taxes, to the capital that the company has invested in assets. Whether a business used debt or equity capital to finance its investments, experts use ROA to determine how well it is running with respect to the investments(Choiriyah, Fatimah, Agustina & Ulfa, 2021). The better the return on investment, the more efficiently and productively financial resources are managed.

ROE measure the amount of money a company makes for its investors using the money that the investors have provided to the company (Choiriyah et al., 2021). Stated alternatively, it is the percentage that emerges from the division of a business's net income (annual return) by the entire amount of stock held by shareholders. Given in another perspective, it measures

the profits made for each dollar that investors invest. It demonstrates how successfully or poorly management optimizes investors' returns on money invested in the business.

ROE offers a simple way to evaluate the returns on investments. Furthermore, ROE might reveal how management is using equity capital to expand the company (Panigrahi & Vachhani, 2021). One can ascertain a company's competitive advantage by comparing its return on equity (ROE) to the industry average. A company's ability to generate value for its shareholders by prudent reinvestment of its revenues is demonstrated by a steadily rising ROE over time, which boosts output and earnings (Choiriyah et al., 2021). Conversely, a continuous drop in ROE can mean that management made a bad decision to put money back into an unsuccessful initiative (Rohmawati & Shenurti, 2020).

1.2.2 PEARLS Monitoring

PEARLS, is a financial performance instrument that is used for oversight and decision-making, as well as evaluating the advantages and disadvantages of SACCOs. PEARLS, which uses its indicators to oversee and monitor the financial well-being of credit unions globally (Masika, 2018). The performance of a SACCO is ranked using established ratios and formulas, which also serve as a monitoring too (Masika, 2018).

While protection shield savings from potential loan losses. Protection is for determining whether there are enough risk reserve funds to handle bad loans that have maturities of one to twelve months and bad loans that have maturities of one to twelve months (Siamo, 2020). By evaluating the loan loss provisions' sufficiency in relation to the total amount of past-due loans, it is determined. Along with loan charge-offs and loan recovery rates, the protection category also contains

Effective financial Structure is the framework through which a corporation can obtain and sustain the resources required for its operations (Siamo, 2020). The most crucial element in establishing a company's development potential, earning capability, and overall financial strength is its effective financial structure. This group of ratios measures assets, liabilities, and capital, and the accompanying targets make up the perfect framework for credit unions. Here, it's important to observe two ratios: The institution's growth should be controlled by the capital ratio, which monitors the connection between capital and assets. When it falls too low, management should adjust pricing to stifle expansion and safeguard reserves.

Asset quality is the ability of an asset to provide income above paying its cost, represented as a percentage increase over the initial investment cost, when it is invested or given as a loan. Gains on investments are defined as capital gains plus any income received from the security (Maulana & Andrianingsih, 2020). Asset quality measures the impact of non-producing assets such past-due loans and non-productive assets. Its goal is to use institutional capital maintained by the SACCO or additional obligations without any apparent financial cost to the company for financing all non-productive assets up to 100%.

Rates of Return and Costs evaluates all operating expenses, including money spent on external loans, share savings, and deposit savings (Gebrehiwet, 2022; WOCCU., 2012). The PEARLS approach recommends aiming to keep operational costs between 3 and 10% of average total assets. PEARLS distinguishes between general administrative costs and the costs associated with setting aside money for loan losses. One can better understand the impact of poor credit administration on a credit union by separating this cost from the other administrative expenditures

Liquidity is the speed at which money can be withdrawn (Simkhada, 2107; WOCCU., 2012)). Simply put, liquidity refers to your ability to access your money whenever you need it or the degree to which a financial institution is prepared to hand over depositors' funds when withdrawal requests are made (Silva et al., 2023). Liquidity will continue to be visible as long as the DT-SACCO keeps sufficient cash reserves to meet reserve requirements and deposit withdrawal requests while reducing the amount of cash that is not being used. After paying all immediate obligations due within 30 days, the "ideal" goal is to keep at least 20% of deposit funds in liquid accounts. The idle liquid funds ratio ought to be as near to 0% as is practicable.

In terms of an increase in membership, loans given, and total assets over time, signs of growth indicate the cooperative's financial health (Siamo,2020). Financial and membership growth are both tracked by Signs of Growth. One of the most crucial ratios is total assets growth. When comparing the increase in total assets to additional noteworthy areas, one could potentially identify any adjustments to the balance sheet structure that might have an effect on profitability, either positively or negatively. It is possible to retain profitability if loan growth maintains up with growth in total assets. Savings deposit growth significantly controls the change in total assets because it is the foundation of credit union growth. s. The most accurate measure of the credit union's profitability is institutional capital growth. A major sign of a DT-SACCOs success is consistent institutional capital growth that outpaces the increase of total assets.

Despite the fact that this system includes a total of 6 indicators or financial ratios, only 4 key indicators; for; Protection, Effective Financial Structure, Asset Quality and Liquidity have

been used in this study because they are crucial for evaluating the financial performance of SACCOs.

1.2.3 Deposit Taking Savings and Credit Co-Operative Societies

According to SASRA (2016), there are those SACCOs that only engage in the deployment of non-withdrawable deposits for offering loans to memberships and such are classified as non-deposit taking. On the other hand, there are Sacco Societies that accept both non-withdrawable and withdrawable deposits and those make up the DT-SACCOs. The members have access to the part of the business that includes them whenever there are no withdrawable deposits. These deposits are not refundable unless the member leaves the organization, but they may be used as collateral. According to the Co-operative Societies Act, these DTSs are also intended for companies that only accept Back Office Service Activity (BOSA). The SASRA not only granted a license to a further DT-SACCO but also renewed 180 licenses for DT-SACCOs to operate in 2015.

SASRA (2015) states that there are five different types of DT-SACCOs: Saccos based in the community (23), Saccos based on farmers (58), Saccos based in private institutions (16), Saccos based on teachers (42), and Saccos based in the government (42). Many types of Saccos reside in the Counties. Debit-taking Sacco activity for the fiscal year that concluded in December 2015 was permitted for 164 deposit-taking Sacco organizations in Kenya as of January 26, 2016.

Up to now, seven hundred and sixty-six SACCOs have engaged in front office service activities (FOSA). The FOSA provides comparable banking services, such as electronic fund

transfers, debit cards, advances, deposits, and withdrawals. Several rural villages were left without access to banking services when banks ceased to serve them, which sparked the commencement of FOSA activities. Both rural and urban SACCOs have FOSAs, and they are widely distributed throughout the nation. Community, private, government, and farmer-based SACCOs are among the other DT-SACCO types. As per the guidelines set forth by SASRA (2021), 176 DT-SACCOs have effectively renewed their licenses. Currently, the industry has deposits and assets totaling Ksh 210 billion. SACCOs in Kenya account for 45% of the nation's GDP (Mwaura, 2021).

1.3 Statement of the Problem

Even though DT-SACCOs in Kenya work extremely hard, their financial performance is greatly impacted by the yearly spike in both the quantity and quality of loan defaults (SASRA, 2020). Most Kenyan DT-SACCOs struggle to keep their institutional capital to total assets to at least the recommended 8% (SASRA, 2019). Due to the difficulties these DT-SACCOs have experienced managing credit risk, their performance has suffered greatly. a specific level of capital sufficiency, liquidity, and asset quality gave affects the financial performance significantly. It is still difficult for each DT-SACCO to fully comply with capital adequacy regulations, negatively impacting their financial performance. The core capital to total deposits ratio likewise had a similar dip during the same transition (that is, from 2018 to 2019), falling marginally from 21.75% to 20.82%. The core capital to total assets ratio decreased from 15.02% to 14.23%. Additionally, between 2015 and 2016, the DT-SACCOs' liquidity ratio dropped from 49.5% to 52.56%, which made it harder for these organizations to fulfil their short-term obligations (SASRA, 2016). Furthermore, from the

years 2016 to 2020, the DT-SACCOS recorded an ongoing reduction in asset quality, which showed up as an increase in non-performing loans (NPLs). NPLs increased from 5.22% to 6.14% between 2016 and 2017 (SASRA, 2018; SASRA, 2017), and then by a further 6.30% in 2018 (SASRA, 2019; SASRA, 2020).

Nevertheless, a temporal increase from 6.30% in 2018 to 6.15% in 2019 was offset by an increase of 8.39% in 2020 (SASRA, 2021). As a result, in these five there was a considerable decline in NPLs, which steadily increased from 5.22% to 8.39%; this was a sign of deteriorating asset quality (SASRA, 2021). According to SASRA (2018), this is making it difficult for the majority of these DT-SACCOs to satisfy their short-term obligations. The financial results of 83 SACCOs in Kenya have suffered as a result. This heightens the risk to these organizations' operations and necessitates prompt action to avert the DT-SACCOs' ultimate failure. Five DT-SACCOs have already collapsed and had their licenses revoked as of 2018 (SASRA, 2018). In light of their poor asset quality, the capacity of these DT-SACCOs to improve the socioeconomic growth of the nation, specifically the elimination of poverty and betterment of its people, is negatively impacted by the revocation of these licenses, which means they are no longer allowed to accept deposits from the public or extend credit to them.

Notwithstanding, WOCCU has recommended the PEARLS framework to assist DT-SACCOS in mitigating credit risk management problems that are harming financial performance (Siamo, 2020). In spite of an abundance of research on PEARLS and financial performance, conclusive findings about PEARLS's effect on DT-SACCOs' financial performance in Kenya remain to be seen. Majority of empirical study had conceptual gaps

(Gebrehiwet, 2022; Maulana & Andrianingsih, 2020; Tangdialla & Sanda, 2021); some had contextual gaps (Esomar & Titioka, 2021); and there were inconsistent results in all of them. This suggests that the empirical data on the use of PEARLS among Kenyan DT-SACCOs for assuring financial performance is negligible. In order to fill the knowledge void, selected PEARLS were considered as affecting financial performance of Kenyan DT-SACCOs.

1.4 Purpose of the Study

In order to further knowledge on the adoption of PEARLS, the study aims to establish through academic research the connection between Key PEARLS and the financial performance of DT-SACCOs in Kenya.

1.5 Objectives of the Study

1.5.1 General Objective

The main objective of this study was to assess the effects of pearls on financial performance of deposit taking savings and credit co-operative societies in Kenya.

1.5.2 Specific Objectives

Specific objective that guided the study were:

i. To establish the effect of protection on financial performance of Deposit Taking Savings and credit co-operative societies in Kenya.

ii. To find out the effects of effective financial structures on financial performance of Deposit Taking Savings and credit co-operative societies in Kenya.

iii. To find out the effects of asset quality on financial performance of Deposit Taking Savings and credit co-operative societies in Kenya.

iv. To find out the effect of liquidity on financial performance of Savings and Deposit Taking credit co-operative societies in Kenya.

1.6 Research Hypothesis

The specific research questions answered by the study are;

H_{01}: There is no statistically significant effect of protection did significant effect on financial performance of Savings and credit co-operative societies in Kenya.

H_{02}: There is no statistically significant effect of effective financial structures on financial performance of Deposit Taking Savings and credit co-operative societies in Kenya.

H_{03}: There is no statistically significant effect of asset quality on financial performance of Deposit Taking Savings and credit co-operative societies in Kenya.

H_{04}: There is no statistically significant effect of liquidity on financial performance of Deposit Taking Savings and credit co-operative societies in Kenya.

1.7 Significance of the Study

Guided by statistical data, there has been a 44% annual rise in non-performing loans (NPLs) among these (Buluma, Kung'u, & Mungai, 2017). It has had a notable effect on these DT-SACCOS's financial performance. The DT-SACCOs' declining financial performance each year calls for immediate action to prevent their eventual collapse, which is why this study was conducted. The report aided the decision-makers of DT-SACCOs in formulating sensible financial risk management regulations. Therefore, both government and the general public

have benefited from the study's conclusions throughout the country. Researchers, academicians, and the DT-SACCOs fond it valuable as a reference manual.

1.8 Scope of the study

This research, focused on assessing the effects of key PEARLS on financial performance of DT-SACCOs in Kenya

1.8.1 Contextual scope

The objective of this research was restricted to examining the impact of the major PEARLS on the financial performance of DT-SACCOs in Kenya. The goal was to comprehend the relationships between financial performance and each of the following factors: protection, an efficient financial structure, the amount of assets, and liquidity. Therefore, the only PEARLS metrics employed in the study are protection, an efficient financial structure, asset amount, and liquidity. In the meanwhile, ROE was then used to gauge the financial performance of DT-SACCOs in Kenya.

1.8.2 Theoretical scope

The research was informed by the Balanced Portfolio Theory, Modern Portfolio Theory, Risk Management Theory, Loanable Funds Theory and Financial Growth Theory

1.8.3 Geographical scope

The research was conducted in Nairobi County, where data was provided by SASRA, the body regulating DT-SACCOs in Kenya. It has been done in Nairobi City because it was there that the data required was held. It is the most inhabited county in Kenya yet the third smallest

in terms of total population, with 4,397,073 people according to the 2019 census. It also serves as the country's capital.

1.8.4 Time scope

The 125 DT-SACCOs operating in Kenya have provided data between 2015 and 2021. This has been examined as panel data.

1.8.5 Methodological scope

The research endeavour has used secondary data sources that were produced especially for financial investigations. A data collection sheet, that the researcher designed was used to gather the data. Data was quantitatively analysed to obtain descriptive and regression statistics.

1.9 Limitations of the Study

In order for the research to be as efficient, helpful, and trustworthy as possible, some challenges had to be solved. First, there was a potential that the study would be limited by errors in linear regression, in addition to issues with autocorrelation, linearity, non-normality, multicollinearity, and heteroscedasticity. Notably, since the model would have included certain facts, any of these broken assumptions suggested that the model was invalid. In order to avoid these errors and maintain the validity and robustness of the regression model, the study has thus tested for the Classical Linear Regression Model (CLRM) assumptions and satisfied these essential CLRM assumptions.

The study has made sure that these inaccuracies were repaired appropriately whenever any of them were found. In order to avoid the multicollinearity issue, some variables were

removed from the study once the analysis were evaluated the multicollinearity phenomenon between independent variables. All efforts were, however, taken to employ a large number of variables in order to minimize the impact of the anticipated constraint on the validity of the study's findings.

Thirdly, it took a long time and greatly increased the study's duration to actually obtain the likely financial documents from the possible sources. In order to get over this restriction, the study additionally collected data from online applications in addition to the sources recommended.

1.10 Delimitations of the study

It gives the impression that significant shortcomings were associated with the research; for instance, it solely assessed the connection between PEARLS and the DT-SACCOs' financial success in Kenya. The scope of this concentration was insufficient to encompass the whole banking or even financial sector. Furthermore, applying the findings to the whole financial market was not feasible.

1.11 Basic Assumptions of the Study

It came to light that many assumptions were required in order for the research to produce trustworthy findings and suggestions. While it was expected that the respondents would supply information at no cost, it was assumed that the data they would provide would be accurate, trustworthy, and authentic, reflecting the current state of the variables in question. It was assumed that the sample size selected for the analysis would be representative of the target population for the investigation as a whole. PEARLS and Kenyan SACCOs' financial performance had been believed to be connected.

1.12 Operational definition of Key Terms

Assets quality means amount of credit risk connected to the loan and investment portfolios, other properties owned, other assets, and off-balance sheet transactions

Effective Financial Structure refers to DT-SACCOs sources of funds where its financial structure is considered effective when its assets, which are funded by savings deposits, produce enough revenue to cover operating expenses, maintain adequate capital, and pay market rates on savings.

Liquidity refers to maintaining adequate cash on hand for client withdrawals—as opposed to money that can be lend

PEARLS refers to a financial performance tool used to determine the strengths and weaknesses of Sacco's as well as a tool for decision making and supervision (Esomar & Titioka, 2021

Protection is defined as weighing the quantity of past-due loans against the suitability of the provisions for loan losses where a credit union is protected when it is able to pay off 100% of all loans past due for more than a year, and at least 35% of loans past due for one to twelve months, it is considered adequately protected

Rates of return and cost refers to measures of an investment's net gain or loss over a given time period, represented as a percentage of the investment's original cost.

Signs of growth refers to sound financial standing in challenging macroeconomic circumstances and is indicated by Customer satisfaction, the suitability of the product offerings, and the stability of the finances

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Ideally, this study looked for pertinent literature to find out how PEARLS impacted DT-SACCO performance. A summary of the literature review provided by various authors, researchers, and authorities was included in the current chapter as a result of this. A review of the empirical literature, which included studies utilizing pertinent theories, conceptual frameworks, and empirical data, were included in this chapter. The theoretical framework contributed to rendering the conceptual framework clearer whereas the empirical literature was examined to ascertain the findings, conclusions, and gaps left by the authors of the papers. This section reviewed the body of work, both theoretical and empirical, that has been produced and assessed by numerous writers, academics, and pioneers

2.2 Theoretical Framework

A thorough discussion of several management of risks theories was provided in this section including; Balanced Portfolio Theory, Modern Portfolio Theory, Risk Management Theory, Loanable Funds Theory and Financial Growth Theory.

2.2.1 Balanced Portfolio Theory

In accordance with Nzongang and Atemnkeng's (2006) discoveries, the balanced portfolio theory approach held equal significance and exerted a notable impact on the lending institutions' and loans' performance. On the basis of the theory, someone with sufficient financial resources will choose how to hold each asset in their portfolio in the most

appropriate way. The size of the portfolio, the risks associated with owning each financial asset, and the rates of return on those assets are merely some of the variables that would have impacted those choices. It implies that decisions made by the management of financial institutions are what cause the targeted portfolio diversification and composition of commercial banks.

The ability to recognize a feasible combination of assets and liabilities as well as the manufacturing expenses borne by financial lending organizations for each asset component is another skill that management needs in order to optimize earnings (Nzongang & Atemnkeng, 2006). The study supported the concept by showing that factors that impacted SACCOs' financial performance included rate of return, loan security policies, and loan protection.

2.2.2 Modern Portfolio Theory (MPT)

The Modern Portfolio Theory (MPT) was originally released by Harry Markowitz in 1952 (Rahmani, 2024). pursuant to the theory, credit risk should be included while determining the rate of return, Because MPT hasn't been used to adequately control it, credit risk continues to be the main risk that most firms face (Mujuka, 2018 In order to predict future losses in the portfolio, this technique frequently entails a credit risk ranking, close observation of loan credit requirements, and a combined effect of research findings. Pursuant to this theory, managers should use the lending review and lending risk assessment procedures to assess any modifications in individual credit or portfolio trends as soon as feasible. Investors can use the MPT to objectively assess potential risks and returns on their venture capital

investments. Investors seek to optimize their total return on a single portfolio through fund management (Elton, Gruber, Brown & Goetzmann, 2009).

The relationship between success and diversity has been examined variously when studying financial institution diversification. These investigations each showed how diversification lowers risk and boosts efficiency. Zagherd and Barghi (2017) assert that whereas earning quality seems to have little effect on banks' ROA, factors like liquidity quality, capital sufficiency, and asset responsiveness to monetary risk indicators accomplish this. In the study, the new portfolio theory was used to establish the productive frontier and the portfolio's optimal portfolio (MPT). The findings demonstrate that economic activity and acquisitions considerably increase capital adequacy because these banks operate and achieve better results as a result of their retail and exchange activities.

The MPT was quite beneficial to this study by presenting the capital adequacy stimulate performance of banks and, most significantly, the accounting performance. The theory also shows that this diversification of the loan portfolio is supported by the lending criterion for loans, or a creditworthiness score. The effectiveness of both tasks, credit standards for loans and a credit risk ranking, resides with management, and it depends on the excellence of pay as well as the effectiveness of management. The financial performance of the IDT-SACCOs is thus based on effective financial structures, which is based on appropriate effective financial structures as well as asset quality, according to the MPT. Using these as a foundation, the study then looked at the three variables as useful independent variables (IVs): effective financial structures, protection, and asset quality

2.2.3 Risk Management Theory

The Darwin and Bidek (1977) founded the risk management theory which places more focus on credit identification, risk prioritization, resource coordination, and their practical use (Wenk, 2010). Regarding resources, the theory suggests minimizing the effects of terrible events, monitoring and managing the probability and/or effects of bad events for the goal of mitigating, and most crucially, maximizing the realization of opportunities. Therefore, financial resources should be protected against any anticipated and unforeseen hazards. Risks may originate from credit risk uncertainty, according to theory (Ajupov, Sherstobitova, Syrotiuk & Karataev, 2019). According to the argument, failing to manage risks would probably have a detrimental impact on shareholders' wealth.

Therefore, DT-SACCOs' financial performance could be enhanced by implementing effective operational, credit, and liquidity risk management. Maina and Otwoko (2021) assert that DT-SACCOs and all other lending institutions must evaluate and identify risks. Therefore, PEARLS indicators are important factors influencing growth. The study examined various factors that impact the financial performance of DT-SACCOs in Kenya, including protection, effective financial structure, asset quality, and liquidity. These factors are derived from the risk management theory

2.2.4 Loanable Funds Theory

In line with Ohlin, Robertson, and Hawtrey's 1937 Loanable Funds Theory, interest rates are influenced by the supply and demand for loanable funds. It was first presented by Robertson and Ohlin in 1930 and covers all types of credit, including savings accounts and loans. An economy may have more credit available overall than private savings because DT-SACCOs

can create credit on demand. In addition to saving and investing tendencies, the production or destruction of fiat credit and money also affects the equilibrium (or market) interest rate. In accordance with Ohlin (2013), It is implausible to claim that the rate of interest equalizes planned investments and savings when it is clearly not the case.

The demand for DT-Sacco loans indicates the inclination to borrow, while the supply curve shows the willingness to save or lend. Members of the DT Sacco are the ones making the loan requests. According to Mishkin (2004), the quantity borrowed and the interest rate have an inverse relationship, but the amount lent and the rate have a direct link. In order to understand how elements like protection, an effective financial structure, asset quality, and liquidity affect the financial performance of DT-SACCOs in Kenya, the Loanable Funds Theory was used in the investigation.

2.2.5 Financial growth theory

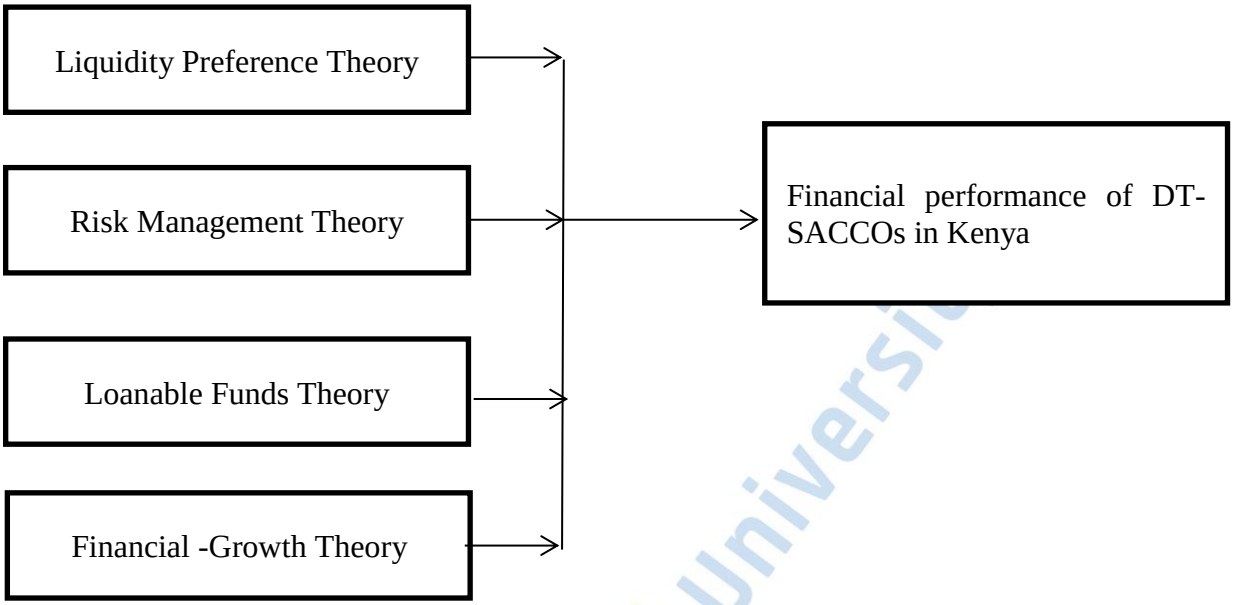
First proposed by Bagehot in 1973, the Financial Growth Theory maintains that the existence of financial progress forms the basis of a positive and profitable economic expansion (Marwa & Zhanje, 2015). A modern, effective financial system's adoption, in accordance with the idea, develops and creates a climate that is conducive to income growth, such as a high degree of financial performance (Melubo & Musau, 2018). Countries encourage policymakers to prioritize financial performance by paying attention to issues that influence economic advancement in order to support the socioeconomic development attained through the PEARLS grading model.

In accordance with the theory, a DT-SACCO can facilitate the transfer of resources from older, non-growth-promoting sectors to more contemporary, growth-promoting sectors,

mobilize savings, and encourage the accumulation of capita. The strength of the PEARLS rating model, the make-up of the financial institutions, and their financial success are all factors that affect a firm's performance (Gebrehiwet, 2022). According to Demirgüç-Kunt, Beck, and Honohan (2008), financial stakeholders should concentrate on financial performance using the PEARLS grading Model, which provides financial accessibility. Access to safe, simple, and affordable finance has been identified as a precondition for increasing financial performance and reducing income and poverty inequality.

The present research, based its findings on the financial growth theory, maintains that the PEARLS grading model is critical to the financial viability of DT-SACCOs. The finance growth theory states that having access to financial services fosters economic growth since supply pushes in the direction of demand pulls (Li, Nketia, Kong & Appiah, 2023). The theory also sees the availability of inexpensive investment options as a major element in bettering financial performance.

2.2.5 Theoretical Framework



Source: Researcher (2023)

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2.3 Empirical Literature

In-depth reviews of several empirical research and related studies that were considered useful in connecting financial performance to the adopting PEARLS were provided in this part. . Specific research objectives served as the motivation for these studies.

2.3.1 Protection and performance

Silva et al. (2023) discovered in their research that the protection index, which stands for risk protection, demonstrated an unfavourable link with profitability (ROA and ROE). The provision for clients with questionable accounts has an influence on performance as well; a lower allowance results in a greater performance, which is more relevant when compared to

ROE because of the surplus/loss account's direct impact on equity. Silva et al.'s (2023) study on Brazilian credit unions found contextual gaps that were specific to a certain locale.

In the words of Esoma and Titioka (2021), protection plays a substantial part when deciding how much of the assets of a credit union are safeguarded. In light of the progress made in achieving the objective, the study concluded that the Credit Union was in respectable standing. Given its reliance on descriptive statistics rather than causality, Soma and Titioka's study from 2021 had a methodological gap.

taking into account the findings of Maulana and Andrianingsih's (2020) study, the PEARLS technique determined that the value is perpetually in the ideal category because it is greater than the required percentage, of 100%. Every year, the value of P1 also always translates into better cooperation and performance when it comes to paying off bad loans within a year. The value has consistently increased, as shown by the results of the P2 computations, but it has also consistently fallen into a group that is not optimal by the PEARLS technique since it exceeds the 35% threshold. Value protection above the norm suggests that the reserve fund risk would be excessive if it were just used to cover loan defaults.

In Paraná's free admission and rural credit unions, Villalba et al. (2019) analyzed the typical PEARLS System metrics to show that even with their low liquidity, these credit unions provided a reasonable degree of protection against credit risks.

2.3.2 Effective financial structure and financial performance

In accordance with Silva et al.'s research (2023), there is a positive correlation between the indicators of the successful financial structure and WOCCU's advice. Credit unions are in a stronger financial position because of the favorable association between these variables and

a decreased likelihood of insolvency. Every asset unit sold in the net loan portfolio raises the performance unit, a gauge of net loan by 52.68%. This suggests that the amount of resources these organizations make available has an impact and helps the credit unions increase their equity. Performance therefore rises in proportion to the increase in net credit volume. The findings also showed a negative relationship to prove that the performance of each unit financed with institutional capital is reduced. Credit union equity capital, losses could have negatively impacted performance, requiring the deployment of institutional capital to pay unanticipated expenses. This situation hinders the growth of the SACCOs, which may suggest the likelihood that insolvency may develop.

Research by Silva et al. (2023) shows that the net loan result shows unit traded in the net loan portfolio contributes to increases in ROA and ROE of 2.4% and 13.7%, respectively, after discounting the risk provision. Since the loan portfolio is these institutions' most valuable asset, performance as determined by ROA and ROE, respectively, was significantly impacted by the institutional capital. The notable performance in terms of ROE can be attributed to a number of factors, including the recent incorporation process that these institutions have undergone or the rise in surplus (profit) or capital inputs by union members, as indicated by the performance index result. A very small sample of 82 respondents out of 925 were used in Silva et al.'s research (2023), which may have led to bias.

Research by Esoma and Titioka (2021_ indicates that growth, profitability, and efficiency are all significantly influenced by an effective financial structure. When the credit union's operating costs are covered, member savings finance its assets, income suffices to cover those savings, and capital sufficiency is maintained, the credit union's financial structure is sound.

The Ratio determines the portion of total assets that is made up of past-due loans and receivables. During the research period, there was an optimal number of outstanding debts. For total non-share savings as a proportion of total assets, the range between 70 and 80% is ideal..

This result is further supported by Maulana and Andrianingsih's (2020) study's findings, which show that values steadily decline. Accounts receivable, or the cooperative's generating assets, still make up a small portion of its total assets, as shown by Value E1. All of the E5 computation results for the years 2017, 2018, and 2019 show that the value is variable because it declined in 2018 and then again in 2019. The PEARLS method also consistently places it in the non-ideal category because it is less than 70%–80%. E5's low value This suggests that non-stock member savings account for a relatively small portion of the cooperative's total assets. All of the E6 computations from 2017 to 2019 show that different values are obtained because there was a decrease in 2019 and an increase in 2018.

The firm performed exceptionally well considering that its value in 2017 was less than 5%, meaning that small loans from outside sources financed its assets. Its value increased steadily and, based on the PEARLS method, it has consistently been above 10%, placing it in the ideal category. This indicates that the cooperative is independent since the majority of the assets under its control are funded by its own capital.

2.3.3 Asset quality and financial performance

The research conducted by Silva et al. (2023) presents the proportion of past-due loans in the credit unions' overall credit portfolio. The results demonstrated a positive correlation and a 17.84% impact of the increase of defaults on performance at a significance level of 1%.. In

the study of AL-Najjar and Assous (2021), which employed a regression model to look at the CAMEL rating for Saudi banks, it was shown that asset quality ratios had little impact on banks' overall deposits.

Thisaranga and Ariyasena (2021) found that assets quality has a significant and positive impact on performance after examining the effect of CAMEL criteria on the performance of eight listed commercial banks in Sri Lanka. A CAMELS rating model and data that underwent multiple regression analysis were used, according to Boateng's research (2019), to analyze credit risk management and bank efficiency in Ghana. So, the success of Ghanaian banks was significantly influenced by asset quality. The performance of Ghana's banks was equally influenced by the calibre of the assets, the management's efficacy, and the availability of liquidity. However, sensitivity had no impact on how well Ghana's banks performed.

In accordance with Esoma and Titioka (2021), there was a decline in the ratio of total default loans to total receivables. The ratio of credit negligence tends to decline as financial performance increases. Remaining operational results and institutional capital will rise if Saumlaki KP can consistently reduce lala credit on an annual basis. Generally speaking, non-producing assets increase in value. Profitability depends on KP Saumlaki's ability to manage its resources; the lower the ratio, the better and healthier the company is.

As per the findings of Maulana and Andrianingsih's research (2020), there has been a downward trend in the A1 calculation results between 2017 and 2019. This suggests improving r ability to manage their outstanding receivables and reducing the quantity of loans that default. Nonetheless, the PEARLS technique shows that cooperatives' financial performance in 2017, 2018, and 2019 is consistently below optimal since the numbers are

higher than 5%. The cooperative is classified as being in the non-ideal category if it possesses an excessive number of non-productive assets.

In their study, Sile, Olweny, and Sakwa (2019) used Pearson's assets efficiency and financial outcomes, as well as correlation and regression methods. The results show that the standard of reserves affects banks financial output in a statistically meaningful way. In accordance with the findings, the paper suggests policies to support income diversification, lower credit risk, and encourage banks' liquidity holdings to a minimum. More research on the variables affecting commercial banks' liquidity at the national level might be helpful for academic and banking literature.

The Lawal, Oluoch, and Mutur (2018) study looks at how asset quality affects how well Nigerian banks operate. The findings show that the operating efficiency ratio of banks is significantly influenced favorably by the quality of their capital assets, and that the performance of non-performing loans or bank insolvency is a major factor in the low quality of bank assets. It may also enhance the bank's larger profits by looking at cost/cost reduction, which boosts banking efficiencies and, in turn, bank fortunes.

The Nyabaga and Matanda (2020) study looked at the qualities of bank asset quality. The results showed that while asset quality has a significant negative impact on ROE, it has little effect on ROA. The findings demonstrated that leverage significantly improved ROE while having a minor positive effect on ROA. The relationship between asset quality and leverage and performance produced contradictory findings. On the other hand, Mananda's (2017) research found that asset quality was unimportant and inversely connected with ROA. Since

asset quality is largely used to evaluate the entire risk connected with a bank's loans, it may not have a substantial impact on the performance.

Mburu (2017) thesis made clear the efficiency was negligible. The asset standard by itself revealed a significant relationship between the various factors and financial performance. Yet only liquidity and capital adequacy have been shown to be statistically significant in the financial performance. The study's findings imply that the efficiency with which financial institutions manage their assets determines how successful they will be.

The Cheruiyot (2016) study discovered significant positive connections between the asset efficiency and earnings of Kenyan commercial banks. This is because, if the asset-to-net asset ratio is lower, asset quality in Kenya is characterized as a good balance between asset quality and profitability. Whenever the ratio of assets to net assets is lower, it indicates that asset quality and profitability are positively correlated in Kenia. Asset quality affects financial institutions' financial performance, according to the empirical analyses of the literature in this section.

2.3.4 Liquidity and financial performance

Al-Najjar and Assous (2021) discovered that the liquidity-measuring loan-to-deposit ratio had a favourable effect on banks' overall deposits. The results of the Boateng (2019) research, which used CAMELS, show that liquidity has a major impact on how well Ghanaian banks perform. Thisaranga and Ariyasena's (2021) study looked at how the CAMEL parameters affected the market-based performance. The results show that the performance is significantly improved by the liquidity status.

On the basis of research by Esoma and Titioka (2021), the ratio is used to assess how well cash liquidity reserves are positioned to cover withdrawal demands once obligations have been satisfied for a period of up to 30 days. With this ratio in excellent standing for both 2018 and 2019, KP Saumlaki can meet its members' demands for loan disbursements and deposit withdrawals while also maintaining cash on hand.

Maulana and Andrianingsih (2020) state that the L1 computations' outcomes show that performance improved annually in 2017, 2018, and 2019. This is supported by the L1's steadily increasing value. The PEARLS approach, however, shows that the cooperatives' 2017–2018–2019 financial performance is not optimal since the value continuously falls short of the 15% PEARLS standard, which represents the cooperative's total amount of non-productive liquid assets. Onyango and Olando's (2020) research found that the liquidity ratio has a weakly significant negative correlation with non-performing loans at the 5% level of significance, in contrast to Ndungu's (2019) study that found a positive and significant correlation between liquidity (measured by Net Liquid Assets/Total Deposits and Short-Term Liabilities) and financial difficulties. This indicates an improvement in the bank's liquidity measures. The Kamande et al. (2016) study investigated the effect of liquidity on the financial performance of Kenyan commercial banks. The study finds that for commercial banks, there is a weakly positive association between ROA and liquidity.

In contrast, liquidity was found to have a strong negative impact on financial hardship by Masdupi, Tasman, and Davista (2018). These differences may have been observed because it appears that previous bank failures served as the impetus for the financial crisis attack,

which in turn sparked a liquidity event that made conditions worse for the institutions that were impacted.

Nyabate (2015) focused on the relationship between liquidity and listed companies' financial performance on the Nairobi Securities Exchange (NSE). Liquidity is one factor affecting the financial performance of NSE listed companies, the study's conclusions indicate. The study found a negative association between ROA and liquidity, which implies that when liquidity decreases, financial performance of companies listed on the NSE will also deteriorate. To guarantee the prosperity of financial institutions, commercial banks shouldn't skimp on liquidity management. They have to keep as much liquidity as they can to meet their financial obligations.

Charmler, Musah, Akomeah, and Gakpetor's (2018) study demonstrates that there is a positive correlation between return on assets and liquidity, as indicated by both bank liquidity measures. However, the correlation between the ratios of liquid assets to total assets is only slightly positive. There was found to be a small negative correlation between total interest-bearing obligations, liquid assets, and the return on equity (ROE). The net interest margin, bank size, capital adequacy ratio, foreign ownership, and bank profitability were found to have positive correlations with each other among the study's control variables. The research comes to the conclusion that banks need to keep their liquid assets at a certain, optimal level in order to increase profitability. Hence, banks need to determine the point at which profitability truly declines.

In their study, Onyekwelu, Chukwuani, and Onyeka (2018) evaluated the impact of liquidity on the financial performance of Nigerian deposit money banks. A multiple regression

analysis was used to examine the data. The findings show that liquidity has a positive and significant impact on banks' profitability metrics as well as their return on capital employed. High public confidence prevents a "run" on the banking system, which has a detrimental effect on banks' liquidity levels. Good liquidity management is the cornerstone of a country's financial system. Management may be held accountable for Nigerian banks' poor liquidity condition because this study and others in the same field have demonstrated a connection between efficient liquidity management and banking performance. Therefore, it is essential to develop regulations that would enhance the efficient use of cash by the Nigerian banking sector and the general population.

Musyoka (2017) discovered a marginally significant but favorable relationship between the liquidity levels and financial performance of Kenyan commercial banks. The results of the study provide credence to the assertion that there is no significant relationship between Kenya's commercial banks' liquidity and financial performance. Mburu (2017) found a substantial correlation between the liquidity and monetary performance of Kenyan commercial banks. According to Cheruiyot's (2016) research, liquidity management and the profitability of Kenya's commercial banks are significantly positively correlated.

2.4 Conceptual Framework

In order to demonstrate how PEARLS impacted DT-SACCOs' financial performance in Kenya, the present investigation developed a conceptual framework based on the theories of loanable funds, risk management, and liquidity preference. Thus, as illustrated in Figure 1, the independent factors were asset quality, protection, effective financial structure, and

liquidity indicators, whereas the dependent variable was the financial performance of DT-SACCOs in Kenya.

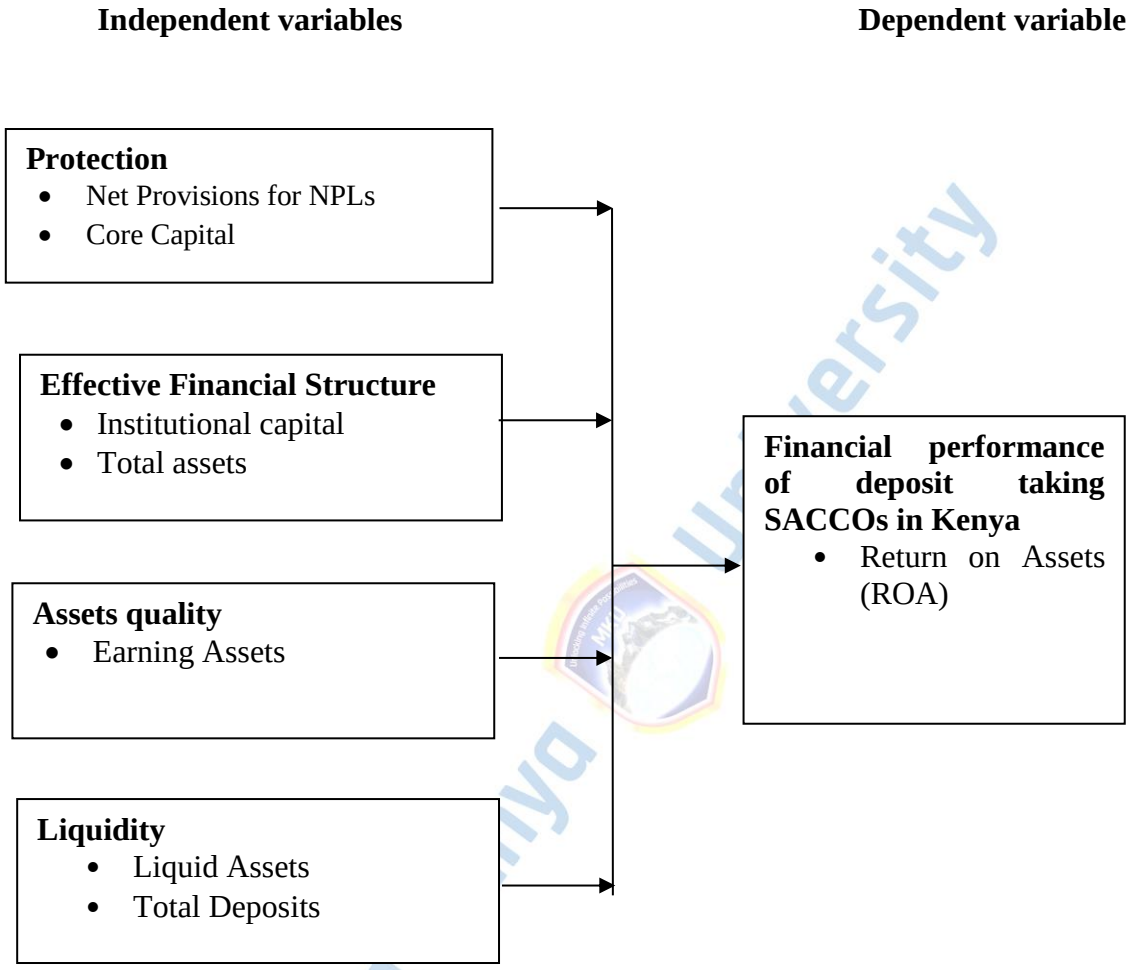

Figure 2: Conceptual Framework

Source: Researcher (2023)

2.5 Recap of literature review

The underlying theories; the theories of loanable funds, financial growth, risk management, modern portfolio theory, and balanced portfolio theory, were reviewed. In relation to the

balanced portfolio theory, the ability to achieve maximum profits depends on the management's decision to create a manageable set of assets and liabilities as well as the unit costs incurred by financial lending institutions for the production of each asset component. This decision also has an impact on loan protection and loan security policies as well as rate of return. In order to address effective financial structures, protection, and asset quality, modern portfolio theory places an emphasis on fund management to maximize the overall return on an individual portfolio Risk Management theory shows that financial resources should be cushioned against any foreseen and unforeseen risks through PEARLS indicators while Loanable Funds Theory helps understand protection, effective financial structure, asset quality, Rates of return and costs, liquidity and signs of growth. Financial Growth Theory contends that the presence of financial improvement serves as the cornerstone of a favourable and productive economic expansion.

The investigation also examined empirical research that demonstrated that better performance was achieved while allowing clients (risk protection) with dubious accounts to have a smaller allowance. Financial performance is impacted by an efficient financial structure. Financial performance was significantly impacted by asset quality. While some studies other studies demonstrated that liquidity has a significant impact on performance

2.6 Research gaps

As previously mentioned, the chapter examined papers that related to past research and variables affecting financial success. Empirical study on the association between PEARLS and the financial performance of DT-SACCOs has often yielded inconsistent findings. For instance, Silva et al. (2023) only focused on non-performing loans (NPLs) while those by Esoma and Titioka (2021) and Maulana and Andrianingsih (2020) covered both NPLs > 12

and default loans 1-12 months. Further, most studies on PEARLS are emphasizing more from economies different than Kenya such as study by Silva et al. (2023) for Brazilian credit unions, Esoma and Titioka (2021) as well as Maulana and Andrianingsih (2020) Indonesia credit unions, Villalba et al. (2019). It is sufficient to say that the literature on the association between Kenyan DT-SACCO financial performance and PAERLS is scarce.

The Kenyan DT-SACCOs were deprived of important information that could have influenced their financial performance. As a result, it is unclear how PERLS and Kenyan DT-SACCO financial performance are related.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The details of the study methodology are provided in the section that precedes. This covers the methods and tools used to gather study data, the populations to be investigated (both sampled and targeted), data processing, validity and reliability tests, and ethical considerations.

3.2 Research Methodology

In order to explain, forecast, and control phenomena, a quantitative method was used to address the question of relationships among measured variables. The investigation employed data spanning from 2018 to 2022. This design was going to offer the most data on the entire population under investigation. Quantitative research was used to create and apply mathematical descriptive research models (Creswell & Creswell, 2018). It was produced through empirical scientific techniques. This method of research was used by the researcher because it helped the researcher to be more objective about descriptive research findings and also allowed the researcher to test hypotheses in experiments since it had the ability to measure data using experimental research statistics.

The study has followed the positivist paradigm, which upheld the idea that scientific knowledge was made up of facts and made sure to only consider what was being observed and measured. By looking for patterns and unofficial connections, they can anticipate and explain what occured in the social environment. Positivists generated quantitative data from big samples that were extremely precise and particular and were interested in testing highly reliable hypotheses. As a result, it was supplemented by a quantitative method, typically used

in a laboratory context, with a limited focus (Creswell & Creswell, 2018). In particular, a quantitative technique was to be used to respond to the query regarding the relationships between variables. This approach was supported by the fact that quantitative data, along with the subsequent analysis, provided a broad understanding of the research topic.

3.3 Research Design

In accordance with Cooper and Schindler (2016), a research design specifies the investigation's road map, that is employed throughout the investigation to achieve the objective and collect information for the research questions. The present investigation has employed the correlational research strategy, which looked for relationships between two or more variables to make predictions (Kabir, 2016). In the research design, Correlational research was selected based on this investigation. Boucaud (2017) asserts that correlational study design is an effective way to look at the relationship between an independent variable (IV) and dependent variable (DV).

Data used was for the period 22018 and 2022, where panel data regression analysis was employed in this study. Given that individual particular variables can be included in the panel data estimation technique, it was used. Additionally, cross-sectional observations are combined in time series. Panel data provides more accurate information, greater variety, decreased co-linearity between the variables, increased degree of freedom, and increased effectiveness.

3.3 Location of the study

The study locale was Nairobi City County because it is there that the target demographic could be discovered. It is the most inhabited county in Kenya yet the third smallest in terms

of total population, with 4,397,073 people according to the 2019 census. It also serves as the country's capital. The coordinates for latitude and longitude are: -1.286389, 36.817223.

3.4 Target Population

Pursuant to several experts' explanations and arguments, target population" refers to the complete set of subjects, whether they be people or things, that share the same traits (characteristics) for which these elements are being branded. These are where samples are taken. The study's interest-relevant characteristics must be present in the target group. The number of authorized DT-SACCOs in Kenya has decreased. In Kenya, there were 181 DT-SACCOs as of 2015, but SASRA cancelled the licenses of five of these in 2016 and two more in 2017, leaving 174 DT-SACCOs operating legally. But because the study has employed panel data for the years 2018 to 2022, it is likely to include information on both DT-SACCOs with active licenses and those whose licenses have been cancelled. The 174 DT-SACCOs with active licenses (Appendix I) and the 7 DT-SACCOs whose licenses have been cancelled (Appendix II) total 181 DT-SACCOs (SASRA, 2016; SASRA, 2019) as the target population. Therefore, 181 DT-SACCOs that functioned in Kenya between 2018 and 2022 target population in this research. The unit of observation was the SASRA financial managers while the unit of analysis was the DT-SACCOs

3.5 Sampling Procedures and Techniques

Sampling is a process that involves choosing an appropriate number of participants in order to establish the parameters of the entire population. In determining the sample size, the study has been suggested by the formula suggested Yamane (1967) which is

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

Where n is the sample size, N is the target population size and is the level of precision (specifically ±5% precision at 95% confidence level).

Thus n = $\frac{181}{1+[181.(0.05)^2]} = \frac{181}{1+1[81.(0.025)]} = \frac{181}{1+.453} = \frac{181}{1.453}$ = 124.615 ≈125

So, the study has used 125 elements as its sample size. The data has been classified into existing and revoked DT-SACCOs. Well along, stratified proportionate sampling have been used in the study to determine the sample size for each classification. To calculate the sample size for each classification, multiply the population in that classification by the sample size, then divide the result by the target population to give rice to Table 1.

Table 1: Analysis by Sample Size

Category	**Population**	**Sample size**
Existing DT-SACCOs	174	120
DT-SACCOs with Revoked licences	7	5
Total	**181**	**125**

Source: SASRA (2018, 2020)

3.6 Sample Population

The sample size was 125 respondents from the 181 DT-SACCOs.. Subsequently, the research has employed systematic random sampling to choose which DT_SACCOs took part in gathering data for each classification. First, the population of each classification was divided by the sample size of that classification to establish the sampling interval (n) for that classification. Beginning with element number one and continuing until the sample size for that classification was reached, the study had chosen the nth element as a participant. The managers or owners of the outlets were regarded as respondents when they were chosen.

3.7 Construction of research instruments

The SASRA, the regulatory agency that oversees the DT-SACCOs in Kenya, maintains statistics that were used as secondary data because of the nature of financial research. The researcher's data collection sheet (an institutional instrument) was utilized for gathering the data (appendix iv). ROA and the PEARLS indices were among the relevant data. The selection of secondary data was justified by the fact that the study variables were primarily historical data, being of a financial nature.

3.8 Testing for Validity and Reliability

Prior to the demonstration, this tool has undergone pre-tests for reliability and validity.

3.8.1 Pilot Testing

Preliminary to the key analysis, a pilot test of the tool was cundertaken. According to Gupta (2014), the quality of the instruments used in a study affects the quality of the results. In order to guarantee that the research instrument is appropriate and clear, a pilot test was conducted. Identification of design and instrumentation flaws and weaknesses, as well as information gathering for probability sample selection, were the goals of the pilot testing. Based on Mugenda & Mugenda (2003), a 10% sample size was utilized for the study's piloting in a different sub county having the same characteristics as the studies, but different from its own. Consequently, utilizing data from the year 2010, which was not included in the main data collection, the pilot was on eighteen (18) SACCOs. The respondents were given the research instrument, and they had one day to answer before it was determined how long it would have taken to administer it during the primary data collection. The research tool was reviewed

throughout the pilot testing so that any necessary edits or deletions may be made to make it suitable for data collecting for the current research.

Retrospective interview methodology was used in the project to pilot test the tool, which was used to collect data in a similar manner and under comparable circumstances. The researcher kept track of the beginning and ending times of the questionnaire filling in order to determine how long it took to finish filling out the tools. The researcher paid close attention to situations where respondents paused before responding or seek for clarification because this would reveal ambiguous questions or answers that they find challenging to understand or have many meanings. As a result, the researcher recorded the locations where problems could have risen. The responders were given time after completing the tools to describe how they interpreted each question and their selection of response.

The questionnaire needed to be reviewed for a second time, with each question allowing the respondent to explain what they believed was being asked. The researcher inquired about instances where the subject paused or requested explanation based on their observations. The researcher then inquired whether the language used would have been made clearer. One respondent at a time was questioned to obtain feedback on the instrument. The study then evaluated the tool's accuracy and dependability.

3.8.2 Validity

Validity aids in ensuring that the tool's components measure the intended constructs. According to Kothari (2012), the appropriateness, significance, and utility of conclusions drawn from the data collected constitute the validity of an instrument. Validity is related to how well the data collected for the study represents the variables. Tools for measuring

validity actually measure what they are designed to test. With the use of a content validity test, the tool has been evaluated for accuracy and usefulness to determine how well the results of data analysis accurately represent the phenomenon being studied. This gauged how accurately data gathered using a specific technology would reflect a given set of metrics or content related to the DV.

The content validity was assessed by two competent specialists, a supervisor and a finance specialist. The manager has assessed the tools to ascertain the concept that each one is meant to gauge. The financial expert concluded that each collection of items will sufficiently evaluate the ways in which financial risk management strategies affect the financial performance of DT-SACCOs in Kenya. The experts were asked for their opinions on the questions' applicability and representativeness, as well as recommendations on how the tools could be designed. Consequently, the obtained data exhibited enhanced content validity. To make sure that the tool's questions had made it possible to address the research questions and study objectives, content validity was used. To do this, expert examination has been used..

3.8.3 Reliability

Reliability of the research, in accordance with Adedeji, Lawan and Sidique (2017)., guarantees its consistency and that the items have internal consistency. If an instrument produces consistent findings when measuring the same object again, it is considered to be reliable. The researcher gathered and examined the data. The tool was rebuilt if any gaps are discovered. Data from official sources, including annual audited financial statements and corporate websites, was gathered for the aim of this study to verify data validity and dependability. The level of reliability refers to how error-free and consistently accurate a

metric is. Repeatability (stability) across time and internal consistency or homogeneity of the measure are the two factors that define dependability. Coefficient alpha is an especially widely used technique for evaluating internal consistency reliability estimations.

Based on the Cronbach Alpha approach, the internal consistency technique has been used in the investigation to assess the reliability (Kothari, 2012). A reliability statistic called the Cronbach alpha measures how much findings from different items measuring the same variable are consistent with one another, or, more precisely, how much internal consistency exists between variables measuring a single construct or notion. With the Cronbach Alpha approach, a reliability coefficient with an absolute value between 0 and 1 is generated, called the Cronbach Alpha (α). In reference to the results of Kothari (2012), a scale with a Cronbach alpha value more than 0.7 signifies enhanced consistency, and the instrument will be accepted; if not, it will be reviewed and some elements will be added, removed, or altered. Therefore, using the Cronbach Alpha approach, the study's reliability analysis was conducted on the study variables.

3.9 Data Collection Methods and Procedures

Gathering, combining, as well as amassing information from either primary or secondary sources is known as data collection. The following tools can be used to gather data: questionnaires, observation schedules, interview guides, time sheets, and focused group discussion guides. In this study, secondary data was compiled from reports on SASRA oversight, financial statements of commercial banks that have been made publicly available for the years 20178 through 2022. Because the time series approach provides more accurate

and dependable data, it was used in this investigation. The five-year time series will run from 2018 to 2022.

3.10 Proposed data analysis techniques and procedure

The study has employed quantitative methods to produce descriptive statistics, such as mean, minimum, maximum, and standard deviation, in accordance with the research objectives.

3.10.1 Descriptive statistics

In order to produce descriptive statistics, the research team has conducted a quantitative analysis of the data. Each variable was given a descriptive analysis in order to understand it and how it relates to the drop in crime. To be more precise, mean (M) and standard deviation (SD) were the key as descriptive statistics to identify trends, patterns, and correlations as well as to make it easier for the researcher to comprehend and evaluate study findings. Narratives have been used to explain the findings, which was presented as tables and charts.

3.10.2 Measure of study variables

Table 2: Operationalization of Study Variables

Variables	Type	Description	Scale	Method
Financial performance of DT-SACCOS in Kdeany	Dependent Variable (DV)	• ROA	Rate	Descriptive Regression
Protection	Independent Variable (IV)	$\frac{Net\ Provisions\ for\ NPLs}{Core\ Capital} x100\%$	Rate	Descriptive Regression
Effective Financial Structure	IV	$\frac{Institutional\ Capita;}{Total\ Assets} x100\%$	Rate	Descriptive Regression
Assets quality	IV	$\frac{Earning\ Assets}{Total\ Assets} x100\%$	Rate	Descriptive Regression
Liquidity		$\frac{Liquid\ Assets}{Total\ Deposits} x100\%$	Rate	Descriptive

	Regression

Source: Researcher (2023)

3.10.3 Model Specification

It was then determined whether there was a relationship between PEARLS and the financial performance using Pearson correlation analysis. In order to determine whether a relationship existed, the research compared the DV (financial performance of DT-SACCOs) to the IV PEARLS (protection, effective financial structure, asset quality, and liquidity). A significance level of 0.05 (p-value<=0.05) was applied while using the Pearson's product method in this investigation.

The study employed an econometric model to measure DV in terms of IVs..

$$Y_{it} = \beta_o + \beta 1X_{1it} + \beta 2X_{2it} + \beta 3X_{3it} + \beta 4X_{4it} + \varepsilon_{it} \quad \text{..... (i)}$$

Where:

Y_{it} = is the dependent variable; Financial performance of DT-SACCOs *i* at time *t*,

X_{1it} = protection of DT-SACCO *i* at time *t*,

X_{2it} = effective financial structure of DT-SACCO *i* at time *t*,

X_{3it} = asset quality of DT-SACCO *i* at time *t*,

X_4it = Liquidity of DT-SACCO *i* at time *t* ,

β_0 is a constant (which is the value of dependent variable when all the independent variables are 0).

$\beta_{1\text{-}5}$ is the regression coefficients or change induced by X_1, X_2, X_3, and X_4,

ε_{it} is the normal error term.

3.10.4 Testing Study Hypothesis

The hypothesis was examined when estimating the empirical models by the application of the Analysis of Variance (ANOVA) and Pearson's product method. In this experiment, Pearson's product technique was employed, with a significance criterion of 0.05 (p-value =.05. The independent factors' significance in predicting the dependent variable was also established, with a 95% confidence level, in accordance with the regression results (i.e., 0.05 level of significance). The analysis's significance level was established at 0.05 (p-value =.05). ANOVA was utilized to assess the model's fitness for fit throughout the hypothesis testing stage of the research model estimate.

3.10.5 Classical Linear Regression Model (CLRM) Assumptions Tests

At first, the study examined the data to determine whether it satisfied the fundamental assumption CLRM in order to validate the robustness and dependability of the regression model (Lelissa 2018). If the presumptions are true, all available data were considered appropriate for the model. However, if these assumptions are false, some information was omitted from the model. It was feasible to confirm the fundamental CLRM assumptions of linearity, normality, multicollinearity, autocorrelation and heteroscedasticity by carrying out the required diagnostic tests. A normality test was performed on the data to determine whether it was distributed regularly; if not, the data was normalized appropriately. The degree of normalcy was assessed using the Kolmogorov-Smirnov test ((Khatun, 2021)). When the mean and standard deviation are same, the data was considered normally distributed for the purposes of this exercise; in another case, it was deemed non-normal (Khatun, 2021). In order to determine whether the IVs are highly linked, the study assessed for multicollinearity; in

this situation, the correlated variables were discarded because they share the same information.

When there is no correlation between two or more independent variables, multicollinearity is absent. When the variance inflation factor (VIF) is more than 10 and the tolerance is less than 0.1 or 10%, multicollinearity is indicated. Astivia and Zumbo (2019) state that heteroscedasticity arises when each error term has a unique variance. Heteroscedasticity was evident when the p-value was less than 0.05. Using a significance threshold of 5%, the research looked for heteroscedasticity. The Breusch-Pagan test..

In order to assist with the descriptive analysis of the quantitative data acquired using a secondary data collecting instrument, the study used the statistical software packages Statistical Package for Sciences (SPSS) Version 22 and MS Excel.

3.11 Ethical Considerations

Research ethics were upheld in this investigation, and work on it didn't start until all necessary authorizations and permits had been obtained. In order to apply for a research commissioning permit to the National Council of Science and Technology (NACOSTI), the research started with obtaining an authorization letter from Mount Kenya University (MKU). The security and confidentiality of the data collected from the respondents were ensured by the study. Every piece of data collected in this respect was kept safe and secure. To preserve their privacy, the respondents were not obliged to write their names on the form. The responders were informed of their requests through an informed consent form and a letter seeking participation.

CHAPTER FOUR

RESEARCH FINDINGS, ANALYSIS AND PRESENTATION

4.0 Introduction

With a focus on protection, efficient financial structure, asset quality, and liquidity indicators, the current chapter aims to primarily present results and related findings PEARLS to financial performance of Kenyan DT-SACCOs. In addition to participant demographics, the chapter first summarizes the validity and reliability results. Next, it discusses regression analysis, descriptive statistics, and related interpretations. Afterwards, the research offers an analysis of the results about the objective literature.

4.1 Results on Testing for Validity and Reliability

This analysis assessed the tool to establish that it was valid for gathering data to measure PEARLS and financial performance using Content analysis technique. It also assessed the research tool for the degree to which interventions were error-free and achieve reliable effects in practice.

4.1.1. Results on Reliability Tests

A reliability statistic called the Cronbach alpha was used to measures how much findings from different items measuring the same variable are consistent with one another, or, more precisely, how much internal consistency exists between variables measuring a single constructbased on results in Table 3

Table 3: Reliability Statistics

Item	Cronbach's Alpha
Protection	0.834
Effective financial structure	0.816
Asset quality	0.944
Liquidity	0.768
Financial Performance	0.901
Cronbach's Alpha (α) = 0.887; N = 6	

Source: Research Data (2024)

Examining Table 3's results reveals that Cronbach's Alpha is 0.887, exceeding Kothari's (2012) recommended threshold of 0.7. In this case, the tool's higher-than-0.7 Alpha value was credited with its exceptional consistency and ensuing reliability. The study retained every item in the tool and used it to build the data based on this discovery Thus., the tool was consistent because each of the following metrics had good reliability: financial performance (α = 0.901), protection (α = 0.834), effective financial structure (α = 0.816), asset quality (α = 0.944), and liquidity (α = 0.768). In light of this, the study used the tool exactly as it was designed, collecting data while keeping in mind that the tool had a high degree of consistency.

4.1.2 Validity Tests

Over the period of the research proposal, this thesis occasionally assessed the tool to establish that it was valid for gathering data to measure of PEARLS and financial performance using Content analysis technique. This assessed the extent to which data gathered using the

instrument reflected the specific field of PEARLS and financial performance. In the content analysis, two financial experts who include the research supervisor and financial expert, assessed the tool. The financial expert decided whether the records were suitable or gathering the financial results of DT-SACCOs on PEARLS and financial performance correctly. The experts were invited to comment and suggest whether the subjects under consideration were relevant and representative. Throughout the course of creating the proposal document, these remarks helped to increase the data's credibility.

4.2 Response Rate

In this section, it was shown that the study managed to compile information from each of the 125 participants during the data collecting phase, implying 100% response rate. This type of response rate is quite high and ideal for enhancing the development of accurate, reliable, and believable outcomes, according to Mugenda & Mugenda (2008). Indeed, Mugenda and Mugenda (2008) offered specific categories based on response rates; a response rate above 69% is excellent and conducive to generating reliable findings. As seen in Table 4, the response in this research was rated as very good at 100% using Mugenda & Mugenda (2003).

Table 4: Analysis by Response Rate

Parameter	Frequency
Response	125
Total	125

Source: Research Data (2024)

4.3 Descriptive Analysis

In this portion, the investigation's descriptive analysis was captured which included the findings from the quantitative approach taken for both IVs and the DV, resulting in descriptive statistics. Remarkably, the descriptive statistics in form of; Mean (M), standard deviation (SD), minimum (Min), maximum (Max), percentage (%) and frequency (N) were used to summarize the findings. Trends and patterns in the relevant variables were identified by these descriptive statistics, and the resulting conclusions were graphically displayed in tables with narrative interpretations. However, after removing errors of commissions and additions, the study arrive d at 618 complete records

4.3.1 Descriptives

The research obtained results on the key descriptive statistics of the study variables; both IVs and DV, which were then captured in Table 5. These were Protection = the ratio of provisions for NPLs to Core Capital, Effective financial structure = Institutional Capital/Total Assets; Assets quality obtain through Earning Assets to Total Assets, and Liquidity expressed as Liquid Assets/Total Deposits

Table 5: Descriptive Statistics

Statistics	No	M	SD	Min	Max
Protection	851	9.9%	6.43%	-0.041%	78.58%
Effective financial structure	851	9.85%	8.36%	0.10%	266.47%
Asset quality	851	78.42%	54.77%	-33.91%	141.67%
Liquidity	851	19.344%	16.32%	6.67%	884.11%
Financial Performance	851	2.37%	2.56%	-0.05%	10.83%

Source: Research Data (2024)

Based on the results shown in Table 5, a total of 851 observations (N) were made. The findings included annual information from 171 DT-SACCOs in Kenya during the year 2018 and year 2022 about their financial performance and important measures. All necessary measurements for the PEARLS indicators were sent in.

The financial performance of the SACCOs throughout this time, as determined by ROA, has been determined to vary from -0.05% to 10.3%. (Min = -0.05% and Max = 10.83%). The results showed that the average financial performance (ROA) was 2.37% (M = 2.37%; SD = 2.56%). The DT-SACCOs calculated that, on average, every Kshs. 1 invested in asset generated a loss of 2 shillings and 37 cents by using ROA to quantify profitability. Accordingly, the financial performance mean value had a minimum variance of 0.29% and a maximum deviation of 4.93%. Over the course of the time, ROA as a percentage varied from a minimum of -0.05% to a maximum of 10.83%. In terms of the financial performance, a standard deviation of 10.93% suggested a low variance from M lowest, which is -0.05%. The negative ROA score indicated unfavorable financial performance when managing the DT-SACCOs' available assets. This implies that the returns on their own assets that Kenyan DT-SACCOs obtained were virtually nonexistent. The financial performance of these SACCOs indicated considerable financial fragility and indicated that they might not immediately become exceptionally strong, pursuant to the PEARLS assessment (Choiriyah et al.,, 2021). According to Rohmawati & Shenurti (2020), any return on assets (ROA) below 0.25% is deemed poor by the PEARLS assessment method, signifying an elevated probability of failure.

Outcomes (M = '9.90%, SD = 6.43%) show an average of 9.9% and SD of 6.43%, with protection's lowest divergence from M observed at 9.73%. Because of this, the DT-SACCOs have allocated aside Ksh 9 and 90 cents (Khs. 9.90) to compensate each Ksh that is lost due to risk and other responsibilities. The results, however, show that the range of protection values is 44.741%, with the lowest possible value being -0.041% and the largest value being 44.70%. (Min= -0.041%; Min= 44.70%). As stated by WOCCU, lower protection levels are better since they give members a safe place to put their money (Silva et al., 2022). Because of the mean of 9.9%, members can deposit their money in a secure setting. In order to manage problematic loans with maturities ranging from one to twelve months, protection involves assessing if there are sufficient risk reserve funds (Siamo, 2020). It is ascertained by comparing the amount of loan loss provisions to the total amount of past-due loans. The protection category also includes loan charge-offs and loan recovery rates.

Concerning the effective financial structure, the findings (Min = 0.10%. Max = 266.47%; M = 9.85%; SD = 8.36%) indicate that the effective financial structure had a minimum level of 0.10% and a maximum level of 266.47%. With a standard deviation of 8.36% and an average effective financial structure of 9.85%, the biggest deviation M is 18.21%, while the lowest is 1.851%. This suggests that the amount of resources provided by DT-SACCOS has an impact and facilitates the growth of their equity. Consequently, as net loan volume rises, financial performance rises as well. A significant correlation between the index and net institutional capital was also found in the findings, indicating that every unit financed with institutional capital leads to a 9.85% improvement in financial performance. The financial performance of the net loan portfolio increases by 9.85% as a result of each asset unit sold. institutional

capital may have been utilized to cover unanticipated events, which implies that any potential losses may have had a negative impact on financial performance. The Silva group (2023).

Based on the available data (N = 851), the research discovered asset quality (loan loss cover to NPLs), was greater than zero but less than 100% (Min = -33.91%; Max = 141.67%). The PEARLS rating's 100% recommendation level was not met by the average asset quality (M=78.42%). With an average of 78.42%, the Kenyan DT-SACCOs provided Ksh 78 and 42 cents for every Ksh 1 on cost of NPLs. Therefore, Ksh 78 and 43 cents were set aside for loan loss for every Ksh 1. The lowest standard deviation from the mean, as indicated by the standard deviation of 54.77%, was 23.66%. Because it was higher than 5%, PEARLS would have deemed the asset quality of these DT-SACCOs to be inadequate. Furthermore, the study found that the related value ranged from -33.91% to 141.67% with SD = 123.40%, with an average of 78.42%. These were exceptionally dismal data. This type of thing happens when DT-SACCOs have a lot of NPLs. This reveals DT-SACCOs in Kenya are dealing with a severe and catastrophic NPL problem. The results show that there is a growing build-up of high-level non-performing loans. That is frequently linked to collapses of lending institutions. As evidenced by Table 4's findings on bank performance, Kenyan DT-SACCOs have appalling financial results.

The average liquidity, as indicated by the liquidity data (M=19.34%; SD=16.32%; Min=6.67%; Max=884.11%), was 19.34%. This suggests the amount of cash availability was at an average of 19.34% annually for cash equivalent assets. Hence, the DT-SACCOs were liable for paying back short-term debt. From the liquid asset, the DT-SACCOs might have

paid Kshs 19.34 toward the Ksh.1 short-term liability. There was a maximum variation of 884.11% and a minimum of 6.67% from the mean.

4.3.2 Trends of the IVs and the DV

Using panel data, the relationship gathered in the research's objective demonstrates the way that each of the IVs relates DV between 2018 and 2022. The outcomes of these connections are shown in the corresponding pictorial presentations in Figures 3, 4, 5 and 6. The X-axis in these graphs reflects protection, effective financial structure, asset quality, earnings ability, and liquidity, while the Y-axis shows the financial performance of Kenyan DT-SACCOs

4.3.2.1 Protection and financial performance

In this research, objective 1 to capture the results on cluster graph showing the trends in change of both protection and financial performance of Kenyan DT-SACCOs was to yield figure 3.

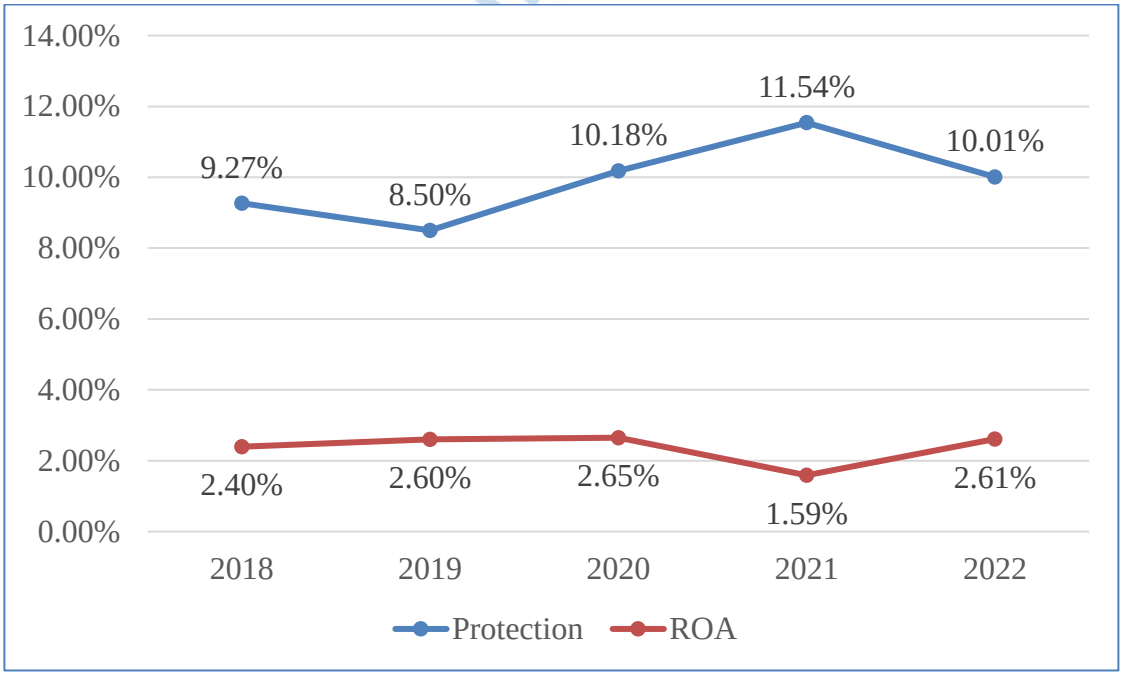

Figure 3: Relationship between the Protection and ROA

Source: Research Data (2024)

As captured in figure 2, in 2018 protection was 9.27% while financial performance was 2.40% while protection decreased to 8.50% in the year 2019, financial performance increased to 2.60% but in the year 2020 protection increased 10.18% as financial performance increased to 2.65%. The year 2021 saw protection increase further to 11.54% while financial performance sharply reduced to 1.59%. However, as protection decreased to 10.01% in the year 2020, financial performance i creased to 2.61%.

4.3.2.2 Effective Financial Structure and financial performance

When evaluating objective 2, the study employed a cluster graph technique to illustrate the patterns in the growth of the effective financial structure and changes in financial performance as illustrated in Figure 4.

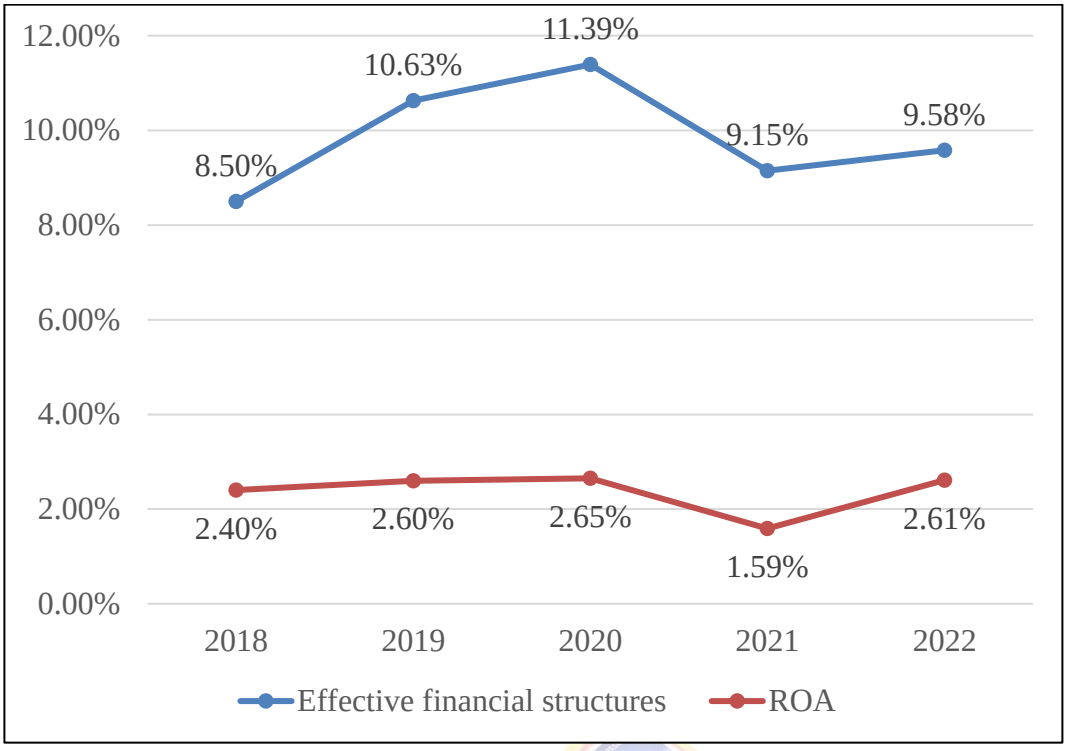

Figure 4: Relationship between the Effective Financial Structure and ROA

Source: Research Data (2024)

Effective financial structure results in figure 4 show while effective financial structure was at 8.50% in the year 2018, financial performance was 2.40%. As effective financial structure increased to 10.63% in the year 2019, financial performance also increased to 2.60%. Again in the year 2020 effective financial structure increased to 11.39% as financial performance increased to 2.65%. While effective financial structure saw a drastically drop to 9.15%. financial performance also abruptly decreased to 1.59% while in the year 2022 as effective financial structure increased to 9.58%, financial performance increased 2.61%. The trends in both effective financial structure and financial performance were the same to show direct relationships.

4.3.2.3 Asset quality and financial performance

Using data from 2012 to 2016, the study evaluated its third objective by attempting to determine the impact of asset quality on financial performance. Figure 5 displays the outcomes that were attained.

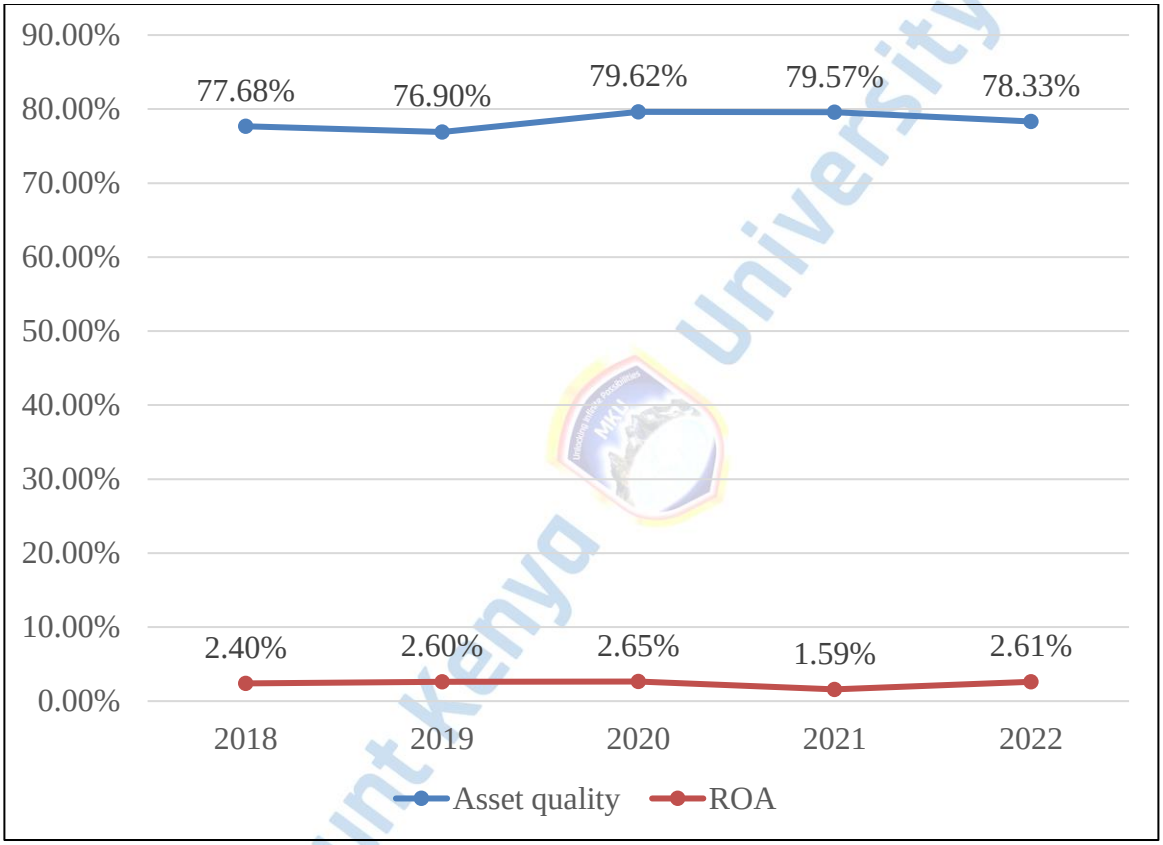

Figure 5: Influence of asset quality on financial performance

Source: Research Data (2024)

Bestowed on these results, In the year 2018 while asset quality registered a level of 77.68%, financial performance was 2.40% but in the year 2019, asset quality reduced to 76.90% while financial performance grew to 2.60%, IN the year 2020, asset quality increased to 79.62% as

financial performance increased to 2.65%. But in the year 2021 as asset quality reduced to 79.57%, financial performance drastically increase to 1.59%. Yet in the year 2022, asset quality reduced to 78.33%, financial performance increased to 2.61%.

4.3.2.4 Liquidity and DT-SACCOs Financial Performance

Guided objective 5, the study produced cluster diagrams on their trends during the study period of between the year 2012 and 2020 with cluster figure 7 capturing these results.

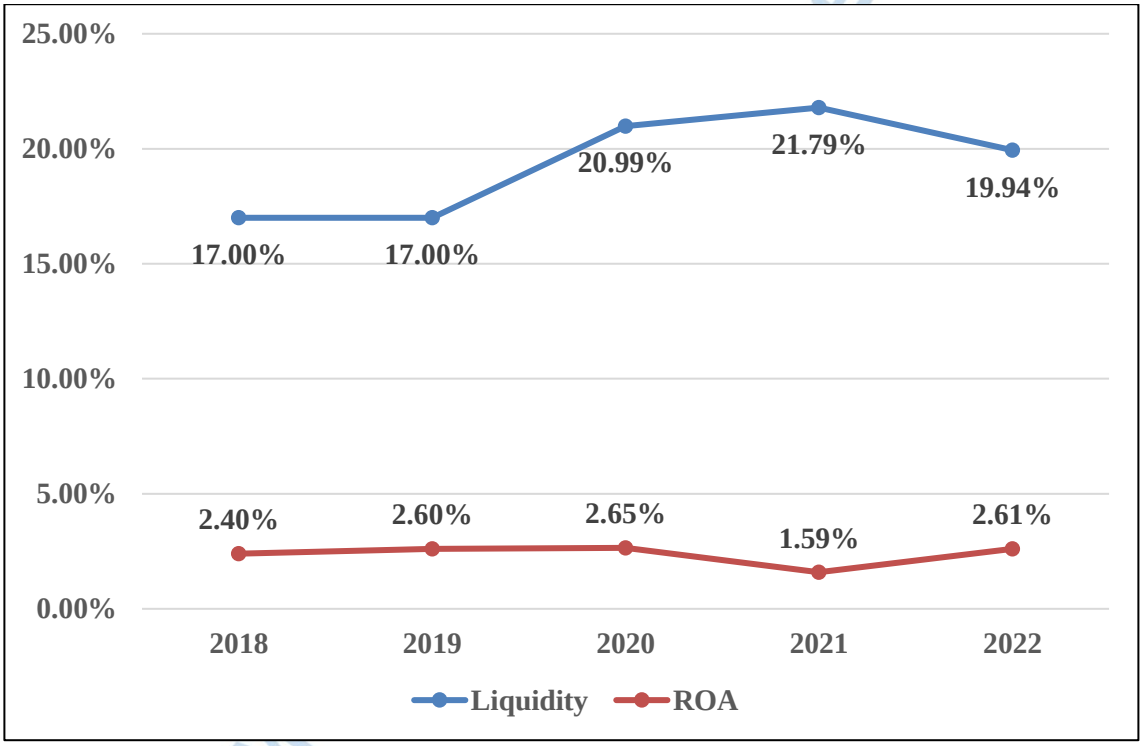

Figure 6: Influence of liquidity ratio on ROA

Source: Research Data (2024)

With these results in figure 7, while liquidity was 17.00% in the year 2018. financial performance was 2.40% but while liquidity remained at 17.00% in 2019, financial

performance increased 2.60%, As liquidity increased in the year 2020 to 20.99%, financial performance increased to 2.65%. But in the year 2021, liquidity increased to 21.79% as financial performance reduced to 1.59%. While liquidity reduced to 19.94% in the year 2022, financial performance increased to 2.61%

4.4 Inferential Analysis

The investigation aimed to establish a link between Kenya DT-SACCOS financial performance and the PEARLS model using inferential statistics at a 5% significant level. The research comprised a correlation analysis based on Pearson's correlation to determine a relationship between the PEARLS indicator (IVs) and the financial performance of the Kenyan DT-SACCOs (DV). Regression analysis was used to generate a model that would illustrate this association in place of that.

4.4.1 Testing Classical Linear Regression Model (CLRM) Assumptions

In inferential analysis, it is critical to observed and sustain the regression model's validity and robustness through tested the data for satisfying basic CLRM assumption (Onyango & Olando, 2019). Once these assumptions are satisfied, the data and any other related information is then regarded and suitable and appropriate for yielding a credible model. On the contrary, when the assumptions are violated, such data is inappropriate for use to establish the model and accordingly edited it required to normalize this the data for usability in model estimation. For this reason, diagnostic checks for normality, heteroscedasticity, multicollinearity and autocorrelation were initiated accordingly.

4.4.1.1 Normality tests

In the present study, Shapiro-Wilk test was employed for normality analysis, producing the results shown in Table 6. Whenever the probability value is more than 0.05, it indicates that either the reverse is true or the remaining is typically asymptotic.

Table 6: Analysis by Normalized Data

	Shapiro-Wilk		
	Statistic	df	Sig.
Financial Performance	.996	675	.143
Protection	.993	675	.063
Effective financial structure	.996	675	.071
Asset quality	.997	675	.214
Liquidity	.996	675	.055

Source: Research Data (2024)

Conferring Table 6 results, study data was informally distributed and especially for each the moderated variables; financial performance, (p=..143), protection (p=.063), effective financial structure (p=.71), asset quality (p=.162), and earnings ability (p=.214) and liquidity (p=.055), there was normally distributed data because each of the p-value was more than 0.05.

4.4.1.2 Data Linearity tests

There was further testing of the variables for linearity to establish existence of linear relationship between the DV and each IV with Table 8 containing the results of linearity test.

Table 7: Analysis by Linearity

	Sum of Squares	df	Mean Square	F	Sig.
Financial Performance * Protection	.792	177	.005	1.171	.114
Financial Performance * Effective financial structure	.475	149	.003	.911	.752
Financial Performance * Asset quality	.670	176	.004	.987	.533
Financial Performance * Liquidity	.799	177	.005	1.171	.095

Source: Research data 2021)

Linearity results in Table 7 exposed existence of linearity (linear relationship) between the DV and each of the IVs and the DV sowing to deviation from linearity for each comparison being higher than 0.05, with; financial performance * protection (p-value = .114), financial performance * effective financial structure (p-value = .752, financial performance * asset quality (p-value = .533), and financial performance * liquidity (p-value = .095).

4.4.1.3 Multicollinearity Tests

In this research multicollinearity was tested to establish occurrence of absence of associated problems. The multicollinearity problems render important variables irrelevant because of the increased p-value, which decreases the t-statistical value. Whenever, variance inflation factor (VIF) of the analysis outcome is more than 10 and at the same time tolerance cannot surpass 0.1(10%).

The outcomes of the multicollinearity test were recorded in Table 8.

Table 8: Testing Multicollinearity Issues

Variable	Collinearity Statistics of the IVs

	Tolerance	Variance Inflation Factor (VIF)
Protection	.767	1.304
Effective financial structure	.840	1.190
Asset quality	.942	1.062
Liquidity	.893	1.119

Source: Research Data (2024)

Founded on Table 8, there were no multicollinearity problems since the tolerance exceeded 0.1 and VIF for each did not exceed 10. The results show that each of the IV; protection (tolerance= 0.767), effective financial structure (tolerance= 0.840), asset quality (tolerance=0.942), and liquidity (tolerance= 0.892) was not correlated to any other and the estimators were suitable for model estimation.

4.4.1.4 Heteroscedasticity test

Homoscedasticity presumption notes that all results remain unchanging in the probability distribution of the disruption concept. In other terms, for all the explanatory variable values the variation of any error term is the same. However, if the riot terms do not have the same variance, heteroscedasticity issues are detected. Simply put, every error term varies in the same way for every value of the explanatory variable. Nevertheless, problems with heteroscedasticity are found if the variance of the riot terms differs (Babulo & Hassen 2004). These problems were checked using the Cook-Weisberg method and they occur when the probability value is below 0.05 while on contrary it does not have any problem of heteroscedasticity. Table 9 contains results of heteroscedasticity test.

Table 9: Analysis by Heteroscedasticity testing

Variable	T-statistics (t)	Probability value (Sig.)

Protection	-0.412	0.683
Effective financial structure	0.146	0.885
Asset quality	0.234	0.816
Liquidity	-0.082	0.935
Annual Average Inflation	-1.389	0.172

Source: Research Data (2024)

Grounded on Table 9, analysis of each IV registered a p-value that was by far surpassing 0.05; protection (p;0.683), effective financial structure (p=0.885), asset quality (p;=0.816), earnings ability (p;=0.850), and lliquidity (p =0.935) while inflation (p=0.172). With such results, then it obvious that the gathered data did not suffer from heteroscedasticity issues.

4.4.1.5 Autocorrelation tests

Autocorrelation assumptions the differences error terms over different time is constant to imply that the observations' error terms do no correlate. The analysis checked for these problems to detect serial correlation using the best renowned approach Durbin Watson test with Table 10 containing the result.

Table 10: Analysis by Autocorrelation

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.658[a]	.4332	.4298	.0479269	1.581

a Predictors: (Constant), Liquidity, Effective financial structure, Protection, Earnings ability, Asset quality

b Dependent Variable: Financial Performance

Source: Research Data (2024)

Durbin-Watson value registered in Table 10 was 1.881. noticeably, 1.581 is greater than 1.5 while it is less than 2.5. That it is not lower than 1.5 and at the same it not surpassing 2.5, the data is not autocorrelating.

4.4.2 Correlation analysis

In this research, Table 11 displays the findings of this study, which used correlation to assess the IVs for any association with DV. The study will conduct first a correspondence review using Pearson's product moment to decide whether any of the IVs was linked to the financial success of Islamic monetary establishments in Kenya.

Table 11: Analysis by Correlation analysis

		Financial Performance	Protection	Effective financial structure	Asset quality	Liquidity
Financial Performance	Pearson Correlation	1				
	Sig. (1-tailed)					
	N	675				
Protection	Pearson Correlation	.618**	1			
	Sig. (1-tailed)	.000				
	N	675	675			
Effective financial structure	Pearson Correlation	.387**	.394**	1		
	Sig. (1-tailed)	.000	.000			
	N	675	675	675		
Asset quality	Pearson Correlation	.218**	.215**	.071	1	
	Sig. (1-tailed)	.000	.000	.064		
	N	675	675	675	675	
Liquidity	Pearson Correlation	.335**	.301**	.180**	.168**	1
	Sig. (1-tailed)	.000	.000	.000	.000	
	N	675	675	675	675	675

**. Correlation is significant at the 0.01 level (1-tailed).

Source: Research Data (2024)

In accordance with Table 7, the associations between the DV and each IV, protection ($p<0.01$), effective financial structure ($p<0.01$), asset quality ($p<0.01$), and liquidity ($p<0.01$), showed a p-value of less than 0.05. The findings agree with Silva et al. (2023) that protection index is significantly related ROA Mote so, Silva et al. (2023) found a positive correlation between the indicators of the successful financial structure. Silva et al. (2023) shows that the net loan result shows unit traded in the net loan portfolio contributes to increases in ROA. Boateng (2019) showed that ROA was significantly influenced by asset quality. Protection had the strongest association ($r = 0.675$), larger than 0.5, with the effective

financial structure having a smaller correlation (r = 0.387) as well as liquidity (r=0.335) was between 0.3 and 0.6 to imply moderate effect. Meanwhile asse quality (r=0.248), it less than 0.3 and more than 0 to imply low effect.

4.4.3 Regression Analysis

MRA was important for aiding in forecasting the variations in DV in relation to alteration in IVs. Multiple regression analysis (MRA) was employed to determine affiliation amid variables of interest. On establishing existence of relationships, MRA came was employed model estimation using all IVs to predict the DV.

The model fitness (goodness of fit) was examined using ANOVA, and the findings were entered into Table 12..

Table 12: ANOVA for Kenya DT-SACCOs' Financial Performance

ANOVA[a]

	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.176	4	.294	128.022	.000[b]
Residual	1.539	670	.002		
Total	2.715	674			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Liquidity, Effective financial structure, Protection, Earnings ability, Asset quality

Source: Research Data (2024)

The research was directed by the beta values of model (i) in order to examine fitness. This resulted in the alternative hypothesis, Hα: β1=0; β2=0; β3=0; and β4 =0, which suggests that the beta for each coefficient of X1, X2, X3, and X4. Thus, at least: $\beta i \neq 0$

The results in Table 12 are significant at the 5% level. H0 is accepted whenever the p-value is greater than 0.05, and it is disregarded otherwise. Whenever the p-value is less than 0.05, Hα is either accepted or rejected.

On the basis of the findings ($p<0.01$, $F = 28.367$), it can be inferred that at least one or all of the betas is not zero because the p-value does not approach 0.05. As a result of H0's rejection, Hα was accepted because the P-value was less than 0.05. In light of this, the study contains enough data to state that, at $\alpha < 0.05$, at least one of the IVs—protection, effective financial structure, asset quality, profits potential, and liquidity—are useful in assessing the financial success of Kenyan debit-to-credit organizations.

Table 12 indicates that the regression model is significant, indicating that the scatter diagram points are reasonably close to the line of best fit (F statistics of 24.012 and P< 0.01). As a result, the model makes sense in terms of explaining how variations in PEARLS variables account for variations in the financial efficiency of Kenyan DT-SACCOs.

The outcomes of regressing IVs and DV for model estimate were recorded in Table 13..

Table 13: Analysis by regression against Predictor Variables

Coefficients'

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.000327	.002		.176	.860
Protection	.487	.033	.495	14.898	.000
Effective financial structure	.159	.031	.161	5.075	.000
Asset quality	.076	.030	.076	2.536	.011
Liquidity	.140	.030	.144	4.687	.000

a. Dependent Variable: Financial Performance

Source: Research Data (2024)

The interpretation of the results in table 14 were founded on the hypotheses captured in chapter one;

Regression result was used to test Hypothesis One;

H_{01}: There is no statistically significant effect of protection on financial performance of DT-SACOs in Kenya.

Given the information provided in the results (p-value <0.01 and T = 14.898), the p-value is below 0.05, which means that the H0 hypothesis was rejected and Hα was accepted because the p-value is below 0.05. Therefore, the research concludes that, at the α = 0.05 level of significance, there is adequate and justified evidence demonstrating that the protection was not zero, and that, as a result, protection is critical for measuring Kenyan DT-SACCOs' financial performance. The present findings are consistent with the research conducted by Silva et al. (2023) which indicates a significant favourable influence of protection on financial performance as assessed by ROA

Next, hypotheses two was tested for effect of asset quality by stating that;

H_{02}: There is no statistically significant effect of effective financial structures on financial performance of DT-SACOs in Kenya

Founded on the results (p-value <0.01; T= 5.075), it is evident that the p-value was a value that could exceed or equal 0.05 confirming the rejection of H_0 and to alternatively provided for acceptance of H_α on approving that p-value was too small to surpass 0.05. It was on the

premise that research settled on claiming that at $\alpha = 0.05$, there is proven adequate and firm evidence of suggesting that the asset quality was not zero and consequently asset quality is important for estimating financial performance of Kenyan DT-SACCOs. These support Silva et al. (2023) in that there is a favorable correlation between the effective financial structure indicators and WOCCU advice. A lesser likelihood of insolvency and, thus, a better financial position for DT-SACCO are indicated by the positive association

Asset quality's effect of financial performance was tested on hypotheses three;

H_{03}: There is no statistically significant effect of asset on financial performance of DT-SACOs in Kenya.

In light of the results (p-value = 0.011; T = 2.536), the analysis provides sufficient evidence that the p-value is below 0.05, leading to the rejection of H_0 and acceptance of $H\alpha$. This is because the p-value was not allowed to be greater than or equal to 0.05. Thus, the investigation concludes that, at $\alpha = 0.05$, there exists adequate evidence indicating that asset quality was not zero, and as such, asset quality plays a crucial role in assessing the financial success of Kenyan DT-SACCOs. This confirms the findings in the study by Thisaranga and Ariyasena (2021) which demonstrated that asset quality has a major impact on the performance of Ghanaian banks. The standard of the assets, the effectiveness of the management, and the availability of liquidity all had an equal impact on the performance

The effect of liquidity was confirmed by testing hypotheses four;

H_{04}: Liquidity does not have significant effect on financial performance of DT-SACOs in Kenya.

On the basis of the findings (p-value <0.01; T = 4.687), the study confirms that the p-value was something that could be greater than or equal to 0.05, indicating the rejection of H0. Alternatively, it allowed for the acceptance of Hα if it was determined that the p-value was too tiny to be greater than 0.05. Based on the premise that liquidity was not zero on analysis, research agreed on stating that at $\alpha = 0.05$, there is demonstrated adequate and firm evidence suggesting that liquidity is vital for assessing financial performance of Kenyan DT-SACCOs. The agree with those in the study by Najjar and Assous (2021) which found that the loan-to-liquidity had a positive impact on banks' total deposits. More os, Boateng (2019) demonstrate that liquidity significantly affects performance. The liquidity state has a considerable positive impact on performance, as demonstrated by Thisaranga and Ariyasena's (2021) .

Since the p-value in Table 14 is less than 0.05, it is confirmed that protection, effective financial structure, asset quality, earnings ability, and liquidity are useful factors to consider when assessing the financial performance of Kenyan DT-SACCOs. The protection, efficient financial structure, asset quality, earnings potential, liquidity, and financial performance of Kenyan DT-SACCOs (DV) are thus significantly correlated, as this confirms.

Protection (β1=0.487), effective financial structure (β1=0.159), asset quality (β1=0.076), and liquidity (β1=0.140) IVs' coefficients are crucial in building the estimation model;

$$Y = 0.000327 + 0.487X_1 + 0.159X_2 + 0.076X_3 + 0.140X_4 \ldots\ldots\ldots\ldots\ldots\ldots \text{ (ii)}$$

Thus, the model for predicting financial performance of Kenyan DT-SACCOs is fitted as

Financial performance of Kenyan DT-SACCOs = 0.000327 + 0. .513(protection) + 0.159(effective financial structure) + 0.076(asset quality) + 0.140(liquidity).

Considering these coefficients, it is discovered that the constant levels of financial performance of Kenyan DT-SACCOs prior to PEARLS indicators were 0.000327 in this equation. The indicators that showed positive coefficients were protection (β1=0.487), effective financial structure (β1=0.159), asset quality (β1=0.076), and liquidity (β1=0.140). Therefore, a one unit increase in protection results in a 0.487 unit rate of change in Kenyan DT-SACCOs' financial performance, whereas a one unit drop in protection results in a 0.487 unit rate of change in Kenyan DT-SACCOs' financial performance.

It is clear that for every unit increase in effective financial structure results, the financial performance of Kenyan DT-SACCOs increases by 0.159 units, whereas for every unit decrease in effective financial structure results, the financial performance of Kenyan DT-SACCOs decreases by 0.159 units. The financial performance of Kenyan DT-SACCOs increases by a rate of 0.076 when asset quality increases by one unit, whereas the financial performance of these organizations decreases by a rate of 0.076 when effective financial structure decreases by one unit. At a rate of 0.140, an increase in one unit of liquidity corresponds to an improvement in the financial performance of Kenyan DT-SACCOs.

Thus, since protection, asset quality, effective financial structure and liquidity had positive coefficients, they are directly proportional to the Kenyan DT-SACCOs financial performance of. Therefore, an increase in any of these variables; protection, asset quality, effective financial structure and liquidity would lead to an increase in Kenyan DT-SACCOs' financial performance of and a decrease in any of them causes an increase on Kenyan DT-SACCOs financial performance.

Table 14: Financial Performance Model Summary

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.658[a]	.4332	.4298	.0479269

a. Predictors: (Constant), Liquidity, Effective financial structure, Protection, Earnings ability, Asset quality
b. Dependent Variable: Financial Performance

Source: Research Data (2024)

Built upon Table 15, the coefficient of determination was.4332, meaning that variations in protection, asset quality, effective financial structure, and liquidity account for 43.32% of the variance in the financial performance of Kenyan DT-SACCOs. The financial performance of Kenyan DT-SACCOs is thus strongly determined by all or any of the following variables: protection, asset quality, effective financial structure, and liquidity.

4.5 Discussions

Grounded on the findings from analysis, this research made discussion by synchronizing the descriptive statistics with the inferential statistics; making reference to the all the tables and figure captured in this chapter. All this work combined the assessment of each objective to its respective hypothesis. The discussions were beefed up a summary of the studies reviewed in chapter two; continuously referring to the cited literature and arguing out they ways those findings related to the findings in this research or negated the same. The section guided by these objectives in connection with their associated hypotheses is sub divided into sections, with each section capturing a specific objective and in the order of those objectives.

4.5.1 Discussions on protection and Kenyan DT-SACCOs' financial performance

When protection was evaluated as a ratio of Net Provisions for Non-Performing Loans to Core Capital, the research found that 9.90% was the least variation from the norm. Kenyan

DT-SACCOs set aside Kshs 9 and 90 cents in order to cover every Ksh lost as a result of risk and other obligations. This was a strong protective adequacy according to the PEARLS grade because it was higher than 15%. Figure 3 shows that there were inconsistent findings on the relationship between protection and financial performance, with most cases showing a direct correlation and some showing an indirect one. In most cases, changes in protection resulted in corresponding changes in financial performance. But occasionally, financial performance suffers as protection levels rise. The inferential shortened the position and demonstrated the proper link between the two, which helped to reconcile the disparity. Protection has been demonstrated to significantly improve the financial performance of Kenyan DT-SACCOs. The present findings are consistent with the research conducted by Silva et al. (2023) which indicates a significant favorable influence of protection on financial performance as assessed by ROA. The outcomes of the Kenyan DT-SACCOs were therefore significantly influenced by protection. To ensure that losses from risk and other liabilities may be sufficiently absorbed, the DT-SACCOs maintain a high level of protection. Table 14 demonstrates that a one unit increase in protection results in a 0.487-unit rate of change in the financial performance of Kenyan DT-SACCOs, whereas a one unit drop in protection causes a 0.487-unit rate of change in the financial performance of Kenyan DT-SACCOs. The research conducted by Silva et al. (2023) revealed an unfavourable correlation between ROA and ROE performances and the protection index (P1), which represents risk protection. A lower allowance yielding a greater performance is more significant in regard to ROE because of the direct effect of the surplus/loss account on equity. The allowance for clients with questionable accounts also affects performance. Also, Esoma and Titioka (2021) found that

protection is an important factor in determining how much of a credit union's assets are protected.

Based on the findings of Maulana and Andrianingsih's (2020) investigation into protection , it can be deduced that because the value is higher than the required percentage, or 100%, the value is always in the ideal category as per the PEARLS technique. Every year, the value of protection also always translates into better cooperation and performance when it comes to paying off bad loans within a year. The value has consistently increased, as shown by the results of the protection computations, but it has also consistently fallen into a group that is not optimal by the PEARLS technique since it exceeds the 35% threshold. If the reserve fund were only used to cover loan defaults, value protection above the norm indicates that the reserve fund risk would be excessive.

More so, Villalba et al. (2019) showed that despite their low levels of liquidity, rural credit unions offered a good level of protection against credit risks and the majority of them financed their investments with their own funds.

4.5.2 Discussions on Effective Financial Structure and DT-SACCOs' financial performance

Effective financial structure, according to the study, varied from 0.10% to 266.47%, or 9.85%. This degree of effective financial structure, as determined by the ratio of net income (net profit before tax) to total advances, was deemed inadequate by PEARLS ratings since it was less than 10%. Financial performance was directly correlated with effective financial structure, as seen by figure 5's results. In order for financial performance to be strongly and significantly influenced by management quality. According to Table 4's findings, Kenyan

DT-SACCOs had subpar effective financial structures and weak, unsatisfactory financial performance. These support Silva et al. (2023) in that there is a favorable correlation between the effective financial structure indicators and WOCCU advice. A lesser likelihood of insolvency and, thus, a better financial position for DT-SACCO are indicated by the positive association for these metrics. The performance unit, which gauges net loans, increases by 9.83% for every asset unit sold in the net loan portfolio.

This suggests that the amount of resources provided by these organizations matters and helps the DT-SACCOs to increase their equity. Performance therefore rises in proportion to the increase in net credit volume. Additionally, a negative correlation between the findings and the index—which measures net institutional capital—showed that every unit supported with institutional capital had a decline in performance. Potential losses may have had a negative impact on performance because of the association between this index and the equity capital of DT-SACCOs. This implies that institutional money may have been utilized to cover unanticipated eventualities. This circumstance has a significant impact and impedes the expansion of the unions under examination, which may indicate a potential for insolvency.

Furthermore, Esoma and Titioka's research from 2021 shows that an efficient financial structure has a major impact on growth, profitability, and efficiency. When member contributions support the credit union's assets, its income suffices to pay for those savings, its operating costs are covered, and its capital adequacy is maintained, the credit union's financial structure is sound. Delinquent loans and receivables make up what percentage of total assets, according to the E1 Ratio calculation. During the research period, there was an optimal amount of outstanding debts. The effective financial structure ratio should fall between 70 and 80% of its ideal range. Its placement is not ideal for this ratio. This result is

further supported by Maulana and Andrianingsih's (2020) study's findings, which show that values steadily decline. Because it is less than 70%–80%, the PEARLS technique also regularly classifies it as non-ideal. The poor value of E5. This implies that a very minor amount of the cooperative's overall assets are made up of savings held by non-stock members..

4.5.3 Discussions on assets quality and Kenyan DT-SACCOs' financial performance

In evaluating how asset quality affected the financial performance of Kenyan DT-SACCOs, the study discovered that the asset quality—that is, the ratio of earning assets to total assets—could not be entirely achieved. More significantly, the asset quality was 78.42% in terms of NPLs to equity. The impact of asset quality on the financial performance of Kenyan DT-SACCOs is depicted in Figure 4; the results are inconsistent, occasionally indicating a directly proportionate link and other times an indirect one. An important benefit of asset quality for banks' financial performance has been observed by most empirical studies. This was also discovered in the current study, which found that asset quality had a positive impact on the financial performance of Kenyan DT-SACCOs, with assets quality accounting for 78.42% of the total. In the end, a one-unit change in asset quality results in a.7842 units rate change in the financial performance of Kenyan DT-SACCOs in the opposite direction. These support the findings of Silva et al.'s research from 2023, which demonstrated a positive correlation and the impact of the rise in defaults on output. Theoretically, this effect results from the payment of new capital shares resulting from the loans taken out by the associates. This is because, in cooperative societies, the capital subscription aims to generate services

for associates and leftovers are distributed proportionately to the operations and services rendered by associates. The CPLA index measures the growth of adjusted net equity. The study by AL-Najjar and Assous (2021) demonstrated that asset quality ratios had no effect on banks' total deposits. The study used a regression model to examine the CAMEL rating for Saudi banks. Thisaranga and Ariyasena (2021) demonstrated that asset quality has a major impact on the performance of Ghanaian banks. The standard of the assets, the effectiveness of the management, and the availability of liquidity all had an equal impact on the performance of Ghana's banks. Sensitivity, however, has no effect on the performance of Ghana's banks. In the meantime, Esoma and Titioka (2021) discovered a decline in the total default loan to total receivables ratio. The ratio of credit negligence tends to decline as financial performance increases. If it can regularly reduce loans on an annual basis, remaining operational results and institutional capital will increase. Non-producing assets typically see an increase in value. The ability to manage resources is a prerequisite for profitability; the smaller the ratio, the better and healthier the business.

As per the findings of Maulana and Andrianingsih's research (2020), loan default rate remains high relative to the total amount of outstanding debt.. The cooperative is classified as being in the non-ideal category if it possesses an excessive number of non-productive assets. In their study, Sile, e al (2019) show that the standard of reserves affects banks financial output in a statistically meaningful way. In accordance with the findings, the paper suggests policies to support income diversification, lower credit risk, and encourage banks' liquidity holdings to a minimum. The Lawal, Oluoch, and Mutur (2018) show that the operating efficiency ratio of banks is significantly influenced favorably by the quality of their capital assets, and that the performance of non-performing loans or bank insolvency is a major factor in the low

quality of bank assets. It may also enhance the bank's larger profits by looking at cost/cost reduction, which boosts banking efficiencies and, in turn, bank fortunes.The Nyabaga and Matanda (2020) showed that leverage had a small positive impact on ROA and a significant positive influence on ROE. There were mixed results about how leverage and asset quality affected performance. On the other hand, Mananda's 2017 research found that asset quality was unimportant and inversely connected with ROA. Since asset quality is largely used to evaluate the entire risk connected with a bank's loans, it may not have a substantial impact on the performance.

4.5.4 Discussions on liquidity and Kenyan DT-SACCOs' financial performance

The impact of liquidity on the financial performance of DT-SACCOs in Kenya is illustrated in Table 5, which is based on the objective 4. The table indicates that the DT-SACCOs were able to repay their short-term debts. From the liquid asset, the DT-SACCOs might have paid Kshs 19.34 toward the Ksh.1 short-term liability. There were significant variances in the values; the maximum was 884.11%, the lowest was 6.67%, the SD was 16.32%, and the highest deviation from M was 15.18%. In order to pay down debts, Ksh. 19 and 34 cents worth of cash and cash equivalent assets were available. As it was less than 550%, Ksh. 19 and 34 cents' liquidity was considered extremely strong by PEARLS assessment. This suggests that, on average, Kenyan DT-SACCOS have a liquidity position that is marginally larger than what is required by law.

According to the regression results, the financial performance of Kenyan DT-SACCOs is directly impacted by liquidity. The financial performance of Kenyan DT-SACCOs changes at a rate of 0.140 units for every unit change in liquidity. Other empirical investigations that

found a significant positive correlation between liquidity and financial success are supported by the directly proportional effect. According to the report's findings, there is a significant correlation between Kenya's commercial financial institutions' liquidity and monetary policy. In the meantime, Al-Najjar and Assous (2021) found that the loan-to-deposit ratio, which measures liquidity, had a positive impact on banks' total deposits. The outcomes of the CAMELS-based research by Boateng (2019) demonstrate that liquidity significantly affects an ank's performance. The liquidity state has a considerable positive impact on performance, as demonstrated by Thisaranga and Ariyasena's (2021) .

The ratio is used to evaluate how well cash liquidity reserves are positioned to fulfill withdrawal demands once commitments have been completed for a period of up to 30 days, based on research by Esoma and Titioka (2021). Compared to Ndungu's (2019) study, which found a positive and significant correlation between liquidity and financial difficulties, Onyango and Olando's (2020) research found a weakly significant negative correlation between the liquidity ratio and non-performing loans at the 5% level of significance. This suggests that the institution's liquidity controls have improved. The Kamande et al. (2016) study looked at the effect of liquidity on the financial performance of Kenyan commercial banks. The study finds that for commercial banks, there is a weakly positive association between ROA and liquidity. In contrast, liquidity was found to have a strong negative impact on financial hardship by Masdupi, Tasman, and Davista (2018). These differences may have been observed because it appears that recent bank failures set off the financial crisis attack, which in turn sparked a liquidity event that made things worse for the institutions that were impacted.

According to Nyabate's (2015) research, ROA and liquidity have a negative link, which means that when liquidity decreases, financial performance would also decrease. DT-SACCOs should invest heavily in liquidity management to ensure the success of financial institutions. In order to fulfill their financial commitments, they must maintain the highest level of liquidity. However, Charmler, Musah, Akomeah, and Gakpetor's (2018) research shows that both bank liquidity measures point to a positive association between return on assets and liquidity. The study concludes that for banks to become more profitable, their liquid assets must be maintained at a specific, ideal level. Because of this, banks must ascertain the exact moment at which profitability actually drops.Based on their research, Onyekwelu and Chukwuani demonstrate that liquidity positively and significantly affects banks' return on capital employed and other profitability measures. Strong public trust averts a "run" on the financial industry, which would have a negative impact on the liquidity levels of institutions. The foundation of any nation's financial system is effective liquidity management. In accordance with Musyoka (2017), there is a little but favorable relationship between the liquidity levels and financial performance. The study's conclusions lend credence to the assertion that liquidity and financial performance have no discernible relationship. The monetary performance and liquidity are highly connected, finds Mburu's (2017) research. Liquidity management and ' profitability are significantly positively correlated, according to Cheruiyot's (2016) research..

45.5 Kenyan DT-SACCOs' financial performance

Regarding the SACCO's performance, the financial performance was discovered to be 2.37%. According to ROA, the DT-SACCOs lost Ksh 2 and 37 cents for every Ksh 1 invested

in assets, meaning that the average financial performance in terms of profitability was 2.37%. With a minimum value of -0.05%, the maximum ROA value for the period was 10.83%. A standard deviation of 2.56% indicated that the financial performance varied little from M, with the best being 4.93% and the lowest being 0.19%. Unfavorable financial performance in the management of DT-SACCOs' available assets was indicated by the low ROA value. According to this, Kenyan DT-SACCOs received relatively little return on their own assets. Based on the PEARLS rating, these DT-SACCOs' financial performance showed significant financial vulnerability that may never fully recover.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter includes an overview of research findings, conclusions drawn from the study, and study recommendations (including recommendations for policy and additional investigation).

5.1 Summary of Findings

This part provides a summary of the study results that aligns with the objectives of the investigation.

5.1.1 Findings on protection and Kenyan DT-SACCOs' financial performance

In summary, the Kenyan DT-SACCOs have excellent protection, averaging 9.9% with the lowest departure from the mean of 9.73%, meaning that for every Ksh lost owing to risk and other liabilities, there is a backup plan of Ksh. Despite the fact that DT-SACCOs' financial performance statistics show financial fragility, the companies have enough capital to support the stability and solidarity of the banks. Notwithstanding challenging circumstances, the protection is sufficient to keep the company afloat due to their improved ability to withstand operating losses and continue lending. That being said, protection has a direct bearing on the financial success of DT-SACCOs in Kenya. Protecting Kenyan DT-SACCOs thus has a large beneficial effect on their financial performance; a unit increase in protection yields a 0.487-

unit rate of change, whereas a unit drop in protection yields a ksh 2-and-37-cent change in financial performance...

5.1.2 Findings on Effective financial structure and Kenyan DT-SACCOs' financial performance

In accordance with PEARLS ratings, the study concluded that the effective financial structure, which is determined by dividing net revenue (net profit before tax) by the total amount of advances (9.85%), is inadequate and subpar. Poor financial performance was directly correlated with an ineffective financial structure. The financial performance of Kenyan DT-SACCOs is significantly improved by an effective financial structure, since inadequate financial performance is a result of an effective financial structure. A well-functioning financial structure plays a critical role in coordinating business operations and is a necessary condition for enhancing the financial performance of DT-SACCOs, which in turn maximizes returns to shareholders..

5.1.3 Findings on assets quality and Kenyan DT-SACCOs' financial performance

In accordance with this study, assets quality is seen as improved because it is getting close to100%, meaning Kenyan DT-SACCOs are placing a loss provision of Ksh 78 and 42 cents for every Ksh 1. Because so much money is set aside to handle non-performing loans, the asset quality of these DT-SACCOs is satisfactory. Such events indicate a somewhat high degree of non-performing loans (NPLs) being incurred at the expense of shareholders' equity as a result of a severe and debilitating NPL problem among Kenyan DT-SACCOs. This is the reason behind Kenyan DT-SACCOs' poor financial performance and is frequently linked to bank collapses. The financial performance of Kenyan DT-SACCOs is significantly and

favorably impacted by asset quality, which explains 78.42% of the variation in financial performance.

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5.1.4 Findings on liquidity and financial performance

It was found that the DT-SACCOs financial performance demonstrates that, for every Ksh.1 in short-term liabilities, these DT-SACCOs have liquid assets of Ksh. 19 and 34 cents for repayment, with the lowest standard deviation at 16.32%. As a result, Ksh. 19 and 34 cents in cash and cash equivalent assets were available to pay off obligations. Strong liquidity is present at Ksh. 19 and 34 cents, and Kenyan DT-SACCOS generally maintain a higher liquidity position than the legally required amount. A unit change in liquidity has a directly proportionate impact on the financial performance of Kenyan DT-SACCOs.The financial performance of Kenyan DT-SACCOs changed at a rate of 140 units.

5.2 Conclusions

Based on the study, the financial performance of Kenyan DT-SACCOs demonstrates that, for every Ksh.1 in short-term liabilities, these DT-SACCOs have liquid assets of Ksh. 19 and 34 cents for repayment, with the lowest standard deviation at 16.32%. As a result, Ksh. 19 and 34 cents in cash and cash equivalent assets were available to pay off obligations. Strong liquidity is present at Ksh. 19 and 34 cents, and Kenyan DT-SACCOS generally maintain a higher liquidity position than the legally required amount. A unit change in liquidity has a directly proportionate impact on the financial performance of Kenyan DT-SACCOs.The financial performance of Kenyan DT-SACCOs changed at a rate of 140 units. Consequently, the inadequate effective financial structure of Kenyan DT-SACCOs contributes to their weak

and mediocre financial performance. this is so because there is a clear correlation between financial performance and effective financial structure. It was found that, accounting for a 15.90% shift in financial performance, an effective financial structure had a statistically significant positive impact on Kenyan DT-SACCOs' financial performance.

As a result of earning assets and total assets, the study finds that the quality of assets has a statistically significant positive impact on the financial performance of Kenyan DT-SACCOs. A large portion of funds are allocated to cushioning non-performing loans (NPLs) when provision loan losses are significant. This severely impairs the DT-SACCOs' financial performance, leading to subpar results. In this case, the cost of shareholders' equity has been substantially harmed by the NPL difficulties. Asset quality contributes positively to the financial success of Kenyan DT-SACCOs, explaining 7.6% of the variance in their financial performance.

The study concludes that there is a substantial positive correlation between the liquidity ratio and the financial success of Kenyan DT-SACCOs. The financial success of Kenyan DT-SACCOs is closely correlated with their liquidity ratio, and this relationship is positively significant. Therefore, a higher liquidity ratio is associated with better financial performance for Kenyan DT-SACCOs, whereas a lower liquidity ratio is associated with worse financial performance.

This research demonstrates that there are serious difficulties with the Kenyan DT-SACCOs based on the PEARLS assessment methodology. The PEARLS rating methodology makes it clear that the companies need to take immediate action to improve their protection, asset quality, cash flow and financial structure, and tight supervision of their lending function.

Because of this, the composite PEARLS rating model can be used to assess Kenyan DT-SACCOs' financial performance and help them comply with SASRA rules.

5.3 Recommendations

The study suggested policy recommendation guided by the objectives.

5.3.1 Policy Recommendations

Based on the findings of the investigation, the following policy suggestion was made. Pursuant to this research, the Kenyan DT-SACCOS should aim to increase their financial performance by making sure that advances and loans are moving in the right direction over time. By putting quality management measures aimed at enhancing their financial performance into practice, these institutions should try to lower the incidence of large NPLs. Such methods should prioritize protection lending and the collection of disbursed funds in addition to effectiveness in loan distribution and collection.

This thesis suggests using the best investment approach for managing protection for Kenyan DT-SACCOs. As a result, the asset portfolio value needs to be increased while keeping protection at the optimal minimum value and at a level that is already beyond the required threshold. It should be highlighted that poor financial performance needs to be improved by utilizing an ideal investing plan. This is the point at which the Kenyan DT-SACCOs would put into practice the best investment strategy in order to diversify their asset base from unstable and hazardous assets to safe treasury assets. Therefore, in an attempt to lower risk, institutions should diversify the assets they hold.

Furthermore, the investigation demonstrated that the DT-SACCOs' asset quality was exposing them to compliance weaknesses, which are purportedly among the variables negatively impacting their future potential to improve their financial performance. In order to make the best decisions about compliance with WOCCU laws and regulations, it is necessary to make sure that the supervisory function enhances effective Financial Structure. Based on rigorous adherence to relevant rules, the study suggests that the executives of these DT-SACCOs should improve the effective Financial Structure capabilities with the goal of achieving safety, soundness, and operational efficiency through risk identification, measurement, and control activities.

In addition, the investigation showed that the asset quality of the DT-SACCOs was probably not enough sustaining their operations, as evidenced by the Kenyan DT-SACCOs' inadequate ability to generate profits. Therefore, this study suggests that Kenyan DT-SACCOs should work to increase the quality of their assets by generating enough revenue to cover their annual overheads, keeping these costs to a minimum, and launching new, appealing products.

More so, this research suggests that Kenyan DT-SACCOs continue to maintain the suggested levels of liquidity. In order to ensure the efficacy of their lending strategies, they should give special consideration to their liquidity management, loan monitoring, and loan recovery. In accordance to the research, interest gap analysis should be used by Kenyan DT-SACCOs specifically to help them estimate the profitability of their investments by maintaining a balance between rate-sensitive assets and rate-sensitive liabilities (interest-sensitive assets). The DT-SACCOs might evaluate their liquidity risk with the aid of gap analysis while

simultaneously planning their cash flows and ensuring that they have assets available to pay off debts.

In a nutshell this research suggests that Kenyan DT-SACCOs should use the PEARLS rating model annually in order to identify components that need extra care. This would help managers comply with related laws and banking regulations.

5.3.2 Recommendations for Further Study

Using the findings, the research suggested further research as: -

1. This study highlighted several questions about Kenyan DT-SACCOs' robust asset quality and protection against their subpar financial performance. This is an unforeseen event. The present study proposes an extensive investigation utilising a descriptive survey and diagnostic research design to clarify and demystify the concepts of Islamic banking and their influence on the financial performance of DT-SACCOs in Kenya. Significantly, this study found that changes in protection, effective financial structure, asset quality, earnings capacity, and liquidity account for 43.32% of the variation in the financial performance of Kenyan DT-SACCOs. In order to determine the additional factors causing the 59.36% variance in the financial performance of Kenyan DT-SACCOs, more research was required. It is best to focus on the structure or guiding principles of Islamic banking.
2. The investigation discovered that regardless of their performance seeming questionable, the DT-SACCOs had kept stable liquidity. The reason behind this unexpected event is unknown. Therefore, more research is required to determine

the unusual liquidity and financial performance patterns of Kenyan DT-SACCOs, which could be related to SASRA principles.

3. During the research period, a few institutions were brought into the Kenyan DT-SACCO space, which may have influenced certain behaviors. PEARLSs should be further investigated on each bank's own..

5.3.3 Social Implication

The Vision 2030 of Kenya recognize DT-SACCO as important players in deepening financial access to mobilize savings for investments in enterprises and personal development. Ensuring improved financial performance of DT-SACCOs through application of PEARLS monitoring will ultimately will spur economic growth through deepening financial access, mobilization of domestic savings and affordable credit to DT-SACCO members; significantly contributing achievement of the financial dimension of Vision 2023

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APPENDICES

Appendix I: Consent for Participation in The Research

Assessing the Effects of Pearls on Financial Performance of Deposit Taking Savings and Credit Co-Operative Societies in Kenya

Dear participant,

I invite you to participate in this research entitled (Assessing the Effects of Pearls on Financial Performance of Deposit Taking Savings and Credit Co-Operative Societies in Kenya). I am currently enrolled in Master's degree in business administration at Mount Kenya University and am currently in the process of writing my Master's project. The purpose of the project is to assess: (How PEARLS influences Financial Performance of Deposit Taking Savings and Credit Co-Operative Societies in Kenya).

The enclose questionnaire has been designed to collect on the assessing (How Pearls Affects Financial Performance Of Deposit Taking Savings And Credit Co-Operative Societies In Kenya)

Your participation in the research is completely voluntarily. You may decline altogether or leave any questions you don't want to answer. There are no known risks to participation beyond those encountered in everyday life. Your responses will remain confidential and anonymous. Data from the research will be place under lock and key and reported only as collective combined total. No one other the research will know your answers to the questionnaire. There are no direct benefits to you for participating in the research. However, you may find it interesting talking about the issues addressed and it may be beneficial to the field and to the future clients and individuals who may have experienced similar concerns.

If you agree to participate in this project, please answer the questions in the questionnaire the best you can. It should take approximately 30 minutes to compete. Please return the questionnaire as soon as possible to enable me complete the project report.

If you have any questions about this project feel free to contact the investigator, (Caroline N. Maina Tel: +254700832665, email: carolinenyawira845@gmail.com and investigator: Dr. Clement O. Olando, Thika Kenya, Telephone +254(0)729163116 email: olandock@gmail.com). If you have questions about your rights as a research participant please be in touch with the chairman, Mount Kenya University, Ethical Review Committee, P. O. Box 342-01000, Thika

Thank you for your assistance in this important endeavour

CONSENT

I have read and in understand the provided information and have the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cots. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study

Participant's signature_____ Date _____

Interrogator's signature_____ Date _____

Appendix II: Data Collection Tool

Introduction Letter

Caroline Nyawira Maina

MBA/2021/75448

Mt Kenya University

Dear Respondent

I'm a student at Mount Kenya University working toward a master's degree in business administration. You have been chosen to participate in this research project, which aims to assess how PEARLS affect the financial performance of Kenyan cooperative societies that provide credit and savings. Simply this study will make use of your answers. All data submitted by the participants will be kept confidential. Would you kindly answer the questionnaire honestly? Please read the questions carefully and select the appropriate answer. If at all possible, give a brief response to the given areas.

I thank you in advance for your cooperation and involvement.

Yours truly,

Caroline Maina

MBA/2021/75448

Mt Kenya University

Institutional Tool

Year Item	2018	2019	2020	2021	2022
Protection					
Existing risk reserve fund					
Negligent loan > 12 months					
Total loan 1-12 months					
Effective Financial Structure					
Institutional capital					
Risk reserve fund					
Default loans over 12 months					
Default loans 1-12 months					
Assets that do not generate					
Total assets					
Institutional capital					
Total Saving Deposits					
Assets quality					
Total default loans					
Total outstanding receivables					
Rates of return and cost					
Total operating costs					
Total assets until the end of the year					
Total assets until the end of last year					
Liquidity					
Total operating costs					
Liquid investment					
Liquid assets do not generate					
Short-term debt					
Total non-share deposits					
Signs of growth					
Total assets for the current year					
Total assets until the end of last year					
Financial performance of Deposit Taking SACCOs in Kenya					
Return on Equity (ROE)					
Return on Assets (ROA)					

Appendix III: List of Licensed Dt-Saccos in Kenya

NAME
STIMA
KENYA POLICE
HARAMBEE
AFYA
METROPOLITAN NATIONAL
UNAITAS
UNITED NATIONS
UKULIMA
IMARISHA
IG
BANDARI
TOWER
GUSII MWALIMU
IMARIKA
KENYA BANKERS
HAZINA
MENTOR
BORESHA
NEW-FORTIS
SAFARICOM SACCO
SHERIA
COSMOPOLITAN
MAGEREZA SACCO
MOMBASA PORT
WINAS
BINGWA
KITUI TEACHERS
NACICO
OLLIN SACCO
SOLUTION
WAUMINI
TRANS NATION
JAMII
KWETU (MASAKU TEACHERS)
K-UNITY
CHAI
CAPITAL
YETU
MAISHA BORA
UNISON
TAIFA

FORTUNE
AMICA
NYATI
KENYA HIGHLANDS
SHIRIKA
NDEGE CHAI
KENVERSITY
KENPIPE
TEMBO
TAI
EGERTON
ASILI
NG'ARISHA
THE NOBLE
NSSF
CHUNA
GDC
UKRISTO NA UFANISI
ARDHI
QWETU
NAWIRI
NATION SACCO
MWITO SACCO
DIMKES
WAKENYA PAMOJA
TRANS-NATIONAL TIMES
BIASHARA
AZIMA
WANANDEGE
TELEPOST SACCO
SHOPPERS SACCO
SKYLINE
SIMBA CHAI
WANANCHI SACCO
KINGDOM
WANAANGA
SOUTHERN STAR
ELIMU SACCO
SMARTLIFE
KITE
ECO-PILLAR
TRANS ELITE
DAIMA
FARIDI

UNIVERSAL TRADERS
TAQWA
FUNDILIMA
MAFANIKIO
CENTENARY
GOOD HOPE SACCO
COMOCO
ORIENT
2NK
SUKARI
PRIME-TIME
ACO
MUKI
TABASAMU
MWINGI MWALIMU
KIMBILIO DAIMA
TIMES U
K-PILLAR
DHABITI
MAGADI SACCO
JITEGEMEE SACCO
MMH
BI-HIGH
THAMANI
VISIONPOINT
NAFAKA
PATNAS
COUNTY
TARAJI
WAKULIMA COMMERCIAL
NYALA VISION
SIRAJI
NRS
SUPA SACCO
WEVERSITY
KENYA ACHIEVAS
GOLDEN PILLAR (IMENTI)
LAINISHA SACCO
KMFRI
TENHOS
BARAKA
PUAN
SMART CHAMPIONS
NDOSHA

VISION AFRIKA
MUDETE
FARIJI
NYAMIRA TEA FARMERS
DUMISHA
JOINAS SACCO
UFANISI
NYAMBENE ARIMI
LAMU TEACHERS
JUMUIKA SACCO**
SOTICO
STAWISHA
VIKTAS
LENGO SACCO
NANDI HEKIMA**
WASHA
STAKE KENYA
NUFAIKA
ENEA
FORTITUDE
KENYA MIDLAND SACCO
TRANSCOUNTIES
ILKISONKO
RACHUONYO TEACHERS
JACARANDA SACCO
KIPSIGIS EDIS
KOLENGE TEA
AGROCHEM
BARATON
NANYUKI EQUATOR
ALL CHURCHES SACCO
NANDI FARMERS
MWIETHERI SACCO
NEXUS
UNI-COUNTY
AINABKOI SACCO**
THE APPLE
BIASHARA TOSHA
KORU
GOODFAITH SACCO
VIHIGA COUNTY FARMERS
GOODWAY
UCHONGAJI
MILIKI SACCO**

Appendix IV: List of Dt-Saccos with Revoked Licenses

NAME
MOI UNIVERSITY SACCO SOCIETY LTD**
NITUNZE SACCO SOCIETY LTD**
MILIKI SACCO SOCIETY LTD*
UCHONGAJI SACCO SOCIETY LTD*
AINABKOI SACCO SOCIETY LTD*
NANDI HEKIMA SACCO SOCIETY LTD*
JIJENGE SACCO SOCIETY LTD (changed to non-deposit taking SACCO)

Appendix V: ISERC Certificate

Mount Kenya University

REF: **MKU/ISERC/3628**
TO: **CAROLINE NYAWIRA MAINA**

Date: 25 April 2024

REG: **MBA/2021/75448**

Dear Sir/Madam,

RE: ASSESSING EFFECTS OF PEARLS ON FINANCIAL PERFORMANCE OF DEPOSTI TAKING SAVINGS AND CREDIT CO-OPERATIVE SOCIETIES

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **2672.** The approval period is **25/04/2024 - 24/04/2025.**

This approval is subject to compliance with the following requirements:

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

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

Yours sincerely,

Dr. Alfred Owino, PhD
Chairman, Mount Kenya University ISERC

MOUNT KENYA UNIVERSITY
P. O. Box 342 - 0100[illegible] THIKA
26 APR 2024
DIRECTOR
Graduate Studies
RECEIVED

Main Campus, General Kago Road, P.O. Box 342-01000 Thika.
Cell: +254 709 153 000 | +254 709 153 200
Email: info@mku.ac.ke, Web: www.mku.ac.ke
Chartered and ISO 9001 : 2015 Certified Institution.
Unlocking Infinite Possibilities

Appendix VI: Authorisation Letter

Mount Kenya University

DIRECTORATE OF GRADUATE STUDIES

MBA/2021/75448

26th April, 2024

National Commission for Science Technology & Innovation (NACOSTI)
Off Waiyaki Way, Upper Kabete,
P.O Box 30623- 00100
NAIROBI, KENYA

Dear Sir/Madam,

RE: CAROLINE NYAWIRA MAINA - REGISTRATION NO. MBA/2021/75448

The purpose of this letter is to introduce the above named student who is pursuing **Master of Business Administration** in the department of **Accounting and Finance** in the school of **Business and Economics**

The title of the research is **"Assessing Effects of Pearls on Financial Performance of Deposit Taking Savings and Credit Co-operative Societies."** It has been cleared by the University's Ethics Review Committee (Certificate attached) and now has to proceed to the field to collect data between **May 2024, and July 2024.**

Any assistance accorded to the student will be highly appreciated.

Thank you.

Mount Kenya University
P.O. Box 342-01000,THIKA
Office of the Director,
Graduate Studies

Dr. Samuel M. Karenga, Ph.D
Director, Graduate Studies
Enc.

Appendix VII: NACOSTI Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 777704

Date of Issue: 14/May/2024

RESEARCH LICENSE

This is to Certify that Ms.. CAROLINE NYAWIRA MAINA of Mount Kenya University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: ASSESSING EFFECTS OF PEARLS ON FINANCIAL PERFORMANCE OF DEPOSIT TAKING SAVINGS AND CREDIT CO-OPERATIVE SOCIETIES for the period ending : 14/May/2025.

License No: **NACOSTI/P/24/35369**

777704

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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

See overleaf for conditions

Appendix VIII: Plagiarism Report

ASSESSING EFFECTS OF PEARLS ON FINANCIAL PERFORMANCE OF DEPOSIT TAKING SAVINGS AND CREDIT CO-OPERATIVE SOCIETIES IN KENYA

by CAROLINE NYAWIRA MAINA NYAWIRA MAINA

Submission date: 19-Jun-2024 10:56PM (UTC+0300)
Submission ID: 2386363288
File name: CAROL_RESEARCH_PROJECT_1.docx (402.27K)
Word count: 24940
Character count: 142851

ASSESSING EFFECTS OF PEARLS ON FINANCIAL PERFORMANCE OF DEPOSIT TAKING SAVINGS AND CREDIT CO-OPERATIVE SOCIETIES IN KENYA

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