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Mediating Effect of Firm Size on the Nexus between Camel Rating Model and Financial Performance of Deposit Taking Savings and Credit Cooperative Societies in Kenya

[*1]John Mwaniki Mirichii, [2]Malgit Amos Akims, [3]Levi Mbugua & [4]Samuel Moragia Nyachae

[1&4]California Miramar University San Diego, California, [2]Kenyatta University, Nairobi Kenya (malgitakims@gmail.com) & [3]Technical University of Kenya

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Abstract

Savings and credit cooperatives are of importance to developing countries due to their huge contributions on the national economy. The study sought to examine the mediation effect of firm size on the relationship between CAMEL rating model and financial performance of deposit taking SACCOs in Kenya. The study emanates from the Doctoral dissertation of the first author where the co-authors served as supervisors. Efficiency structure theory and working capital management theory were used. Panel regression analysis was used based on secondary data for the period 2013 to 2022. The study established that the mediation effect of firm size on the relationship between CAMEL rating model and financial performance of deposit taking SACCOs in Kenya was significant. Higher market value and consequently financial performance are linked to institutions with large firm sizes. It is therefore recommended that SACCOs should strive towards growing their total assets which will subsequently translate to higher profits and ultimately higher financial performance. The advantages of economies of scale of large institutions should be fully maximized so as to sustain higher financial performance of SACCOs.

Keywords: *CAMEL Rating Model, Firm Size, Financial Performance and Deposit Taking SACCOs*

1.0 Introduction

Financial intermediation involves situations in which financial institutions stand in-between counterparties in a transaction, in this case the co-operative enterprise acts as the financial institution in the intermediation process, in a near similar way that a banking institution would. They are usually rather small, independent financial institutions. This enables the rural and urban poor population to deposit savings as well as to take loans. Small loans are believed to bring

significant improvement in the lives of the active poor by increasing their productive capacity. Credit enables the poor to boost their businesses, agricultural production and to meet their daily needs (Nnyanja, 2017).

It is against the global development of cooperative movement that the first SACCOs were launched in Germany in 1846 during an agricultural crisis and drought in Europe (Birchall, 2004). The first Savings and Credit Co-operative Society was formed there in 1849 by Hermann Schelze-Delitzch and William Friedrich Raiffesisen as the pioneers (WOCCU, 2018). SACCO was introduced to assist people overcome economic problems during the prevailing famine. In 1850, workers in a milling factory in England started savings and extending loans to assist each other. The idea moved to North America later in the twentieth century, resulting to formation of the first SACCO Society in Canada by Alphonse Desjardine in 1901 and in USA by E. Filene, a Boston merchant for his employees.

Ongore and Kusa (2013) noted that there was a vast establishment of the idea which spread to Canada, Asia, United States, Australia and Ireland. World Council of Credit Unions (WOCCU) was formed in 1970 with aim of providing an international discussion forum and for association, providing assistance to new and developed movements, providing insurance and large scale training.

SACCOs are forms of co-operatives offering financial services in form of loans. They have an estimated over $ 1.2 trillion loans, but loan repayment poses a threat (WOCCU, 2018). SACCOS improve members' financial knowledge through education on Member Financial Literacy (MFL). The UN (2013) reports that there are over 51,000 credit unions worldwide that operate in 100 countries, with 196 million members and $1.56 billion in assets. It further reports that their market penetration is 7.8 per cent on average, but this varies widely by region. Market penetration is higher in North America, Oceania and the Caribbean, with 45 per cent, 23.6 per cent and 17.5 per cent respectively, and much lower in Africa, Latin America, Europe and Asia, with 7.2 per cent, 5.7 per cent, 3.5 per cent and 2.7 per cent respectively. The report notes that Savings and credit cooperative activities provide a livelihood for as many as three billion individuals and make substantial contributions to national economies.

SACCOs, like other cooperatives, are a distinct kind of business model whose features are not the same as private investment firms and are created with the aim of satisfying the common needs of a group of individuals. The group of individuals who give rise to and participate in the cooperative can be very heterogeneous in terms of their economic/social extraction but share a need that cannot be addressed individually. A cooperative is not found to either maximize profit or for regulatory compliance. Instead, the aim is to help each other in a particular task or service (Yatsenko, Nitsenko, Mardani, Streimikiene & Tananaiko, 2019).

Kamau and Guyo (2017) posited that SACCOs are basically cooperative financial institutions owned and usually controlled by members who voluntarily come together. These members would be driven by the motive to stimulate a pool of savings on one hand and provide credit at a relatively affordable interest rate on the other hand. These loan facilities are usually extended to members only (Marwa & Aziakpono, 2016). SACCOs are anchored on two fundamental functions, namely financial intermediation and investment. Alio, Okiror, Agea, Matsiko and Ekere (2017) highlighted that SACCOs not only provide microfinance outreach to clients and areas that are unattractive to banks, but also provide loans and financial services unlike the majority of microcredit non-governmental organizations (NGOs). These societies make finance

more accessible for members who are usually underprivileged and do not qualify through the normal banking channels.

Firm size can manifest itself through its total assets, the number of employees, and total sales. In this study, natural logarithm (ln) of firm's total assets is used to denote firm size. In a study on bank size and performance of banks. In Kenya, DT-SACCOs have been traditionally segmented into three (3) categories based on the size of their asset portfolio to assess and monitor the risks associated with each category. These are: large tiered, mid tiered and small tiered. Large tiered SACCOs have total asset base in excess of Kshs 5 Billion or total deposits above Kshs 5 Billion; Mid-tiered have total asset base of between Kshs 1 Billion and Kshs 5 Billion or total deposits of between Kshs 1 Billion and Kshs 5 Billion while Small tiered have total asset base of below Kshs 1 Billion or total deposits of below Kshs 1 Billion (SASRA, SACCO Supervision Annual Report, 2021 & 2022). In its 2021 annual supervisory report SASRA (2022) noted that SACCOs, whose average sizes remain very small, do not enjoy economies of scale. The report records the SASRA's realization of the stiff competition in the national financial sector driven by heavy capital expenditures in marketing, competitive pricing, digital financial products, and service, which means that only large and well-resourced financial institutions which enjoys economies of scale shall survive in the long run. This reality has seen mergers and acquisition taking place in the commercial and microfinance banking sector, which is the key competitor of SACCOs in the finance business.

Therefore, the authority recognizes that a time has come for the SACCO subsector and its players to commence a policy dialogue on voluntary mergers (also called amalgamations) and consolidation of the subsector. The report observes that despite being social enterprises in their nature and formation, SACCOs are principally economic businesses which will thrive and be sustainable to meet members' obligations when they enjoy economies of scale. According to the report, statistical information shows that there are too many small SACCOs in the subsector. For instance, there are 49-Agriculture based SACCOs in the country, but which controlled less than 10% of the subsectors' total assets and total deposits. Equally there were over 107-Private sector based SACCOs whose total assets and total deposits portfolios is less than 13% of the subsectors' total assets and total deposits. The report says that a similar scenario obtains regarding the 88-Community based SACCOs which had a proportion of the subsector's total assets and total deposits at about 11.84% and 12.86% respectively. The analysis therefore shows that 67.59% of all SACCOs controlled a paltry 36% of the subsector's total assets and deposits; while the remaining 32.41% of all SACCOs (being the 117-Government-based SACCOs) controlled a whopping 64% of the subsector's total assets and total deposits.

2.0 Theoretical Literature Review

Efficiency structure theory was introduced by Demesetz in 1973. According to efficiency structure theory, decisions made by managers at banks within and regarding general bank policy are reflected in bank earnings, portfolio composition, and shareholder returns (Mutunga & Gatauwa, 2021). The intense competition brought about by technology and globalization has increased the interest in firm efficiency both in academic and in the practical world. Firms are also faced with the option of pricing their products to attract more customers or for a niche market. The competitive nature of the market has also made firms realize the need to have quality products as well as having lower prices for their products in order to attract more customers and enjoy bigger market share. In view of this, banks should be skilled in various

areas of their operations to enhance operational efficiency so as to be assured of an increased customer base on the ground and the reduction of operational costs. The efficiency structure theory clarifies that only those banks that remain more efficient compared with their competitors are more likely to gain higher profits. Therefore, the application of this hypothesis to financial institutions that have better management practices and therefore operate because they have lower operating costs than their rivals, they will make more money overall. Relationship between management efficiency and profitability highlights the significance of efficiency structure theory to this study. Hence, efficient management of internal organizational factors can lead to lowering operational costs within a SACCO which results in better financial performance. Efficient credit management in SACCO for instance can save it from loss of member shares and high costs related to loan recovery. Thus, the improved managerial scale efficiency of SACCOs asserted by the efficiency structure theory leads to larger market share and increased market concentration.

The working capital management theory contends that if working capital is managed according to prescriptive theory then it would be expected that businesses would invest in working capital, finance working capital, monitor factors that influence working capital, manage cash, accounts receivable, inventory, accounts payable, the cash conversion cycle (aggregative approach), and measure and analyze performance to ensure that the long term (fixed) assets are utilized effectively and efficiently (McInnes, 2000). Working capital is the excess of current assets over current liabilities. Working capital is critical to the success of a business in achieving objectives such as shareholder wealth, profit motive, survival, sustainable competitive advantage and growth. Its impact on liquidity, solvency, efficiency, and profitability is direct and unambiguous through its main elements, namely, cash, marketable securities, accounts receivable, inventory and prepayments. Underlying the use of working capital and other liquidity ratios to measure a firm's liquidity is the belief that the greater the margin by which a firm's current assets cover its short-term obligations or current liabilities, the better able it will be to pay its bills as they fall due. Saunders and Cornett (2011) roots for careful cash flow arrangements where the maturity of various assets and liabilities is considered and appropriately matched to ensure liquidity (Kahuthu, 2016). Organizations therefore need to operate with sufficient cash flow, making sure that the assets have earlier maturities than that of liabilities in order to cover against risk.

2.2 Empirical Literature Review

Abisola (2021) studied effects of size of a bank on financial performances of listed Deposit Money Banks (DMB) in Nigeria. The study further examined moderating effect of internal control adequacy on relationships between bank size and financial performances. This was underpinned by Resource Based Theory and adopted *ex-post* facto research design using secondary data for 10 DMBs for a period of 12 years from 2006 to 2017. To examine data, multiple regression analyses were performed. The analysis demonstrated that number of employees, total assets, and customer deposits all of which are proxies for bank size had aggregate impacts on return on assets. It was also discovered that moderating variable, internal control adequacy, strengthened relationships between bank size and return on assets. The study came to conclusion that there were significant combined impacts on financial performances of proxies for bank sizes (total assets, number of employees, and customer deposits) and adequate internal control.

Mutunga and Gatauwa (2021) sought to ascertain influences of firm features on achievements of SACCOs in Nairobi. Specifically, research aimed at assessing how various firm features (firm

size, management efficiency, assets quality and capital adequacy) affected financial results of SACCOs operating in Nairobi. Various theories guided the research, adopting census approach and involving forty two (42) licensed deposit taking SACCOs in Nairobi operating during period 2014 – 2018. Secondary data was assembled through data review guide and descriptive and panel regression used in data analysis. Diagnostic tests were undertaken for multi-collinearity and normality before applying inferential analysis. Variables were found to have positive influences on financial outcome of SACCOs and were recommended for small SACCOs to consider merging with other SACCOs in order to increase their size and their asset base. Further, it was recommended that managers and other employees of SACCOs should be trained to attain managerial skills to improve efficiency and effectiveness. Further, quality of assets that management intended to use in daily operations of SACCOs should be evaluated and ensure that SACCOs have right and adequate capital. This will make SACCOs ready to play their lending function.

Shibutse, Kalunda and Achoki (2019) investigated the effect firm size on financial performance of deposit taking savings and credit cooperatives in Kenya. Pecking order, capital structure, and tradeoff theories served as research's guiding theories. Mixed-method research design using positivist approach was utilized. Primary and secondary data from 2013 to 2017 was employed to study 174 DT-SACCOs and credit cooperative societies. The study applied stratified purposive sampling technique, and data were analyzed using regression model and descriptive statistics. Results of analysis showed that while leverage had significant and negative impacts on financial outcome, firm size had positive and significant influences on financial output of DT-SACCOs. In order to ensure proper liquidity and cash flow management, it was advised that each DT-SACCO establish an assets and liabilities committee to supervise functions related to assets and liabilities. Additionally, there was need to address the critical contributory factors to firm size such as increased membership, deposits mobilization among others.

Teimet, Lishenga, Iraya and Duncan (2019) studied the effect of bank size on profitability of commercial banks in Kenya and existence of equilibrium/disequilibrium relationship between two variables. This was underpinned on Resource-Based Theory. The study made use of time series data sourced across 42 commercial banks in Kenya covering period 2009 to 2018. Regulator's weighted composite model for assessing bank size was used, while profitability attribute (ROA) was captured by earnings before interest and tax (EBIT) over assets. Direction and magnitude of relationships was assessed using Regression analysis. Autoregressive distributed lag model was used for purpose of establishing steadiness of equilibrium and speed of adjustment to equilibrium. From results, bank size was found to have positive and significant effects on profitability (ROA). The study further established existence of long-term and short-run relation with speed of adjustment equal to 95 percent. It was concluded that bank size plausibly relates profitability and as such, banks consolidation and other expansion strategies enhanced bank profitability as evidenced by bidirectional causality between variables.

Gathara (2019) evaluated among others effects of organizational size on relationships between financial structure and output by selected firms listed at NSE. Various theories guiding the study included Stakeholder, Trade-off, Pecking Order, and Capital Structure theories. Firm size was established to have positive and significant moderating effects on relationships between financial structure and output of organization.

Antoun, Coskun and Georgievski (2018) carried out detailed analysis of determinants of bank performances in Central and Eastern Europe. The study guided by CAMEL model, adopted classification of determinants of bank financial performances in Central and Eastern European Countries into three categories: bank-specific, industry-specific, and macroeconomic factors. Financial performance index (FPI) based on CAMEL ratios was constructed and then computed index on determinants affecting performances were ran based on findings in literature. Unbalanced panel consisted of 128 banks from the region. Data were collected from Bank scope database (over the period 2009-2014), World Development indicators (World Bank), and Financial Structure and Development Dataset. Empirical analysis using fixed-effect panel regression applying fixed effects model was conducted to accommodate cross-section of selected individual banks and time series. Results indicated assets quality and earnings of banks are negatively and significantly affected by business mix and bank diversification; that operating efficiency has no significant impacts on asset quality and earnings; and that inflation has positive and significant impacts on asset quality and earnings. Results also show that size of bank in a CEE country has significant negative impacts on bank performances, as measured by asset quality and earnings. This suggests that smaller banks benefit from economies of scale, while bigger banks do not. In addition, capital adequacy and liquidity were found to be negatively affected by size and positively affected by bank concentration and economic growth. The current study examined the mediation effect of SACCO size on the nexus between CAMEL factors and financial performances of DT- SACCOs in Kenya.

Karuga (2017) sought to establish relationships between firm size and financial performances of deposit taking SACCOs in Kenya. The study was grounded on Economies of scale, Agency, Stewardship, Shift-Ability, and Pecking order theories. Study population was 176 licensed DTS in Kenya as at end of December 2016. Secondary data of sample of 39 licensed SACCOS for period 2012-2016 and determined using stratified and simple random sampling methods was acquired through SASRA and inspected accounting records that were stored on different SACCO websites. Subsequently, multiple linear regression, correlation analysis, and descriptive statistical methods were used for data analysis. For data analysis, SPSS was utilized. For purpose of creating tables and graphs, descriptive statistics were employed. It was determined that parameters of firm size, liquidity, and capital adequacy had greatest effects on financial performances. Furthermore, it was shown that although liquidity and age had positive but insignificant relationships with financial performances, firm size and capital adequacy had positive significant relationships with it. It was concluded that there was positive relationships between firm size and financial performances in Kenya.

Kinyua (2013) sought to examine relationships between financial performances and size of a SACCO in Kenya, anchored on Agency, Stewardship, and Organizational Theories. As of end of December 2012, there were 124 deposit-taking SACCOs licensed by SASRA in Kenya, which made up study population. Stratified sampling technique was used to select sample of thirty SACCOs, which were divided into three existing categories based on asset value. Over four-year period, from 2009 to 2012, SASRA-domiciled SACCOs' audited financial statements were source of secondary data collection and extraction. The study utilized descriptive survey design and employed correlation analysis and multivariate regression model to ascertain relationships between SACCO size and financial performances. Model's significance was tested using ANOVA statistic. There were negative correlations between return on assets and total assets, but strong and direct relationships between return on assets and deposits/savings.

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3.0 Research Methodology

Population of interest in this study comprise of all 176 deposit taking SACCOs in SASRA's directory as at 31 December 2022. This study adopted multistage sampling technique to select suitable sample. The first stage was selecting active DT-SACCOs in the directory and leave out the inactive ones. The second stage was subjecting the active SACCOs to a sampling formula to determine the representative sample size. The third stage was the random selection of the specific active SACCOs within the sample size considered in the study.

Out of the DT-SACCOs enlisted in the directory maintained by SASRA as of 31 December 2021, 81 DT-SACCOs were found to be active. The study applied Yamane sampling formula with an error of 0.1 as shown below.

Yamane Sampling Formula $n = \frac{N}{1+Ne^2}$ where n= sample size, N= Population of the active SACCOs, and e=error term. In this equation N= 81 and e= 0.1. Therefore, the sample size was be

$n = \frac{81}{1+81(0.1)^2}$ = 45

This study therefore had a sample size of 45 active DT-SACCOs. The panel regression analysis was conducted based on the approach by Baron and Kenny (1986) for mediation test which is based on a four step procedure as indicated below:

Step One

The first step had the composite CAMEL rating model predicting financial performance:

$\mathbf{FP}_{it} = \beta_0+\beta_1 CAMEL_{it} +\varepsilon$ …..1

Step Two

The second step had the composite of CAMEL rating model predicting firm size:

$\mathbf{FS}_{it}=\beta_0+\beta_1 CAMEL_{it}+\varepsilon$……2

Step Three

The third step had firm size predicting financial performance:

$\mathbf{FP}_{it} =\beta_0+\beta_1 FS_{it}+\varepsilon$ …..3

Step Four

The fourth step had the composite of CAMEL rating model and firm size predicting financial performance:

$\mathbf{FP}_{it} =\beta_0+\beta_1 CAMEL_{it}+ \beta_2 FS_{it}+\varepsilon$……4

Where:

FP= Financial Performance: Return on Asset

CAMEL= CAMEL Rating Model: capital adequacy, asset quality, management efficiency, earning ability and liquidity

FS= Firm Size

β_0 to β_2 = Regression Coefficients

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i= Firm (1 to 45)

t= Time (2013 – 2022)

4.0 Data Analysis and Discussions

4.1 Descriptive Analysis

The findings from the descriptive analysis of the study were reported in the form of observations, mean, standard deviation, minimum and maximum values as contained in Table 1.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Financial Performance	448	.5137677	6.46085	-.1038458	131.4056
Capital Adequacy	448	.1779958	.1105836	-.2867552	1.109451
Asset Quality	448	.0571651	.1075813	0	1.552457
Management Efficiency	448	.4602272	2.725797	-2.431837	50.06095
Earnings Ability	445	26.7237	292.8841	-.582707	5453.146
Liquidity	443	1.336255	5.902457	-8.308055	93.30392
Firm Size	448	9.244171	.7414798	5.766766	10.80656

Source: Study Data (2023)

Drawing from the descriptive summary of the variables features to ascertain the data centrality and the disperse manner, financial performance was said to have a mean value of 0.51376 while having a standard deviation of 0.64085. The values of financial performance fall within the range of -0.10384 and 131.4056. The mean value of the outcome implies that the firms' financial performance within the study period has an average of 0.51376 while the variation in the financial performance of the companies varies from each other by 6.46085.

Capital adequacy further exhibited a mean value of 0.17799 which has a deviation from the standard mean of 0.11058. The value of capital adequacy has a minimum of -0.28675 and maximum of 1.10945. The outcome demonstrated that capital adequacy of the firms averaged 0.17799 which varies across the different firms at the rate of 0.11058%. Asset quality of the firms was analyzed descriptively indicating a mean average of 0.05716. The variation in the asset quality of the firm based on the deviation from the standard value is 0.10758, a value with falls within the lowest value of 0 and highest value of 1.55245. With such output, asset quality is said to vary from each of the firm at 0.10758 but however, standing on the average of 0.05716.

Management efficiency as uncovered by the descriptive assessment demonstrated a mean score of 0.46022 and a value that deviate on a standard of 2.72579. The outcome further unraveled a minimum score value of -2.43183 which is extremely highest at 50.06095. Notably, it is explained that management efficiency of the studied firms varies relatively high from each other as the rate of standard variation is put at 2.72579 given a standard average score of 0.46022.

Earnings ability of the firms deployed in the study showcased an average score of 26.7237 with deviation from the standard value of 292.8841. The values of the mean and the standard deviation lie within the -0.58270 and 5453.146 as lowest and highest values respectively.

Inferring from this, earning ability of the firms has a very high variability from one another putting such rate at 292.8841 with the ability of the earnings averaging 26.7237.

The values attributed to liquidity of the firms recorded a mean value of 1.33625 and a standard deviation from the mean of 5.90245. With this value, it is suggested that both losses and gains are recorded with the minimum value of -8.30805 and the highest value of liquidity as 93.30392. The negative values associated with liquidity of the firms imply that some of the firms were low on liquidity over the study period even though the average score was still positive at 1.33625.

The size of the firms mean value which the study displayed was 9.24417 which has the deviation from the mean based on a standard of 0.74147. The values displayed and associated with firm size have a lowest value of 5.76676 and 10.80656 as the highest value as well. The outcome as inferred demonstrated that the size of the firm does not vary significantly from each owing to the standard deviation value of 0.74147.

4.2 Panel Regression Analysis

The mediation effect analysis was based on a four-step procedure as outlined by Baron and Kenny (1986). The outcome from the mediation effect analysis is presented in Table 2.

Table 2: Panel Regression Results

Step	Predictor	Predicted Variable	Coefficient	P-value
One	CAMEL	Financial Performance	.0204383	0.000
Two	CAMEL	Firm Size	-.0008304	0.000
Tree	Firm Size	Financial Performance	.4950401	0.003
Four	Firm Size	Financial Performance	.4950401	0.003
	CAMEL		.0208493	0.000

Source: Study Data (2023)

The mediation outcome was presented therein to determine the factors effect on each other. The output displayed that in step one, CAMEL rating model has a significant positive effect on financial performance as demonstrated by a coefficient of 0.02043. Step two uncovered an inverse and significant mediation effect of CAMEL rating model on firm size which is illustrated by a coefficient of -0.00083. The third step of the mediation analysis revealed a positive and significant mediation effect of firm size on financial performance as denoted by the coefficient of 0.49504. Demonstration from the fourth step of the evaluation displayed that CAMEL rating model significantly and positively affect financial performance as unraveled by a coefficient of 0.02084. The outcome further portrayed that firm size significantly and positively affects financial performance as shown by the coefficient of 0.49504.

H_O: Firm size has no significant mediation effect on the relationship between CAMEL rating model and financial performance of Deposit Taking SACCOs in Kenya.

In line with the objective of establishing the mediation effect of firm size on CAMEL rating model and financial performance nexus regarding deposit taking SACCOs in Kenya, the study formulated and tested a corresponding null hypothesis. The analysis was based on the null hypothesis stating that firm size has no significant mediation effect on the relationship between CAMEL rating model and financial performance of deposit taking SACCOs in Kenya. From the output in Table 2, p-values of 0.003 and 0.000 were recorded for firm size and CAMEL rating model respectively predicting financial performance. The nexus between CAMEL rating model and financial performance in the context of deposit taking SACCOs in Kenya is significantly predicted by firm size. This can be linked to the fact that growing firm sizes reflects the level of economies of scale which often translate to higher financial performance when adequately managed. A growing firm size serves as an indication that an institution is witnessing increasing growth. This is as financial institutions with large sizes are viewed to be in better position with higher capacity of generating profits in comparison with those having small sizes. Large-scale firms possess higher level of competitiveness as compared to small firms. This is as large-scale firms have a corresponding large market which in turn provides opportunities for higher profitability. As such, higher total assets and sales, lead to higher size or scale of financial institutions, hence improving their financial performance.

The findings of the study relate to those of existing empirical studies. Shibutse *et al.* (2019) examined the effect of firm size on financial performance of deposit taking savings and credit cooperatives in Kenya. It was reported that firm size had positive and significant influences on financial performance of DT-SACCOs. Teimet *et al.* (2019) documented that firm size had significant positive effect on profitability (ROA) of commercial banks in Kenya. Karuga (2017) sought to establish relationships between firm size and financial performances of deposit taking SACCOs in Kenya. It was concluded that there was a positive relationship between firm size and financial performance of SACCOs in Kenya.

5.0 Conclusion and Policy Recommendations

The study established that the mediation effect of firm size on the relationship between CAMEL rating model and financial performance of deposit taking SACCOs in Kenya was significant. While concluding on this, the study consequently put forward that the mediation role that firm size has on CAMEL rating model and financial performance nexus for deposit taking SACCOs in Kenya is important and has significant implications. Higher market value and consequently financial performance are linked to institutions with large firm sizes. It is therefore recommended that SACCOs should strive towards growing their total assets which will subsequently translate to higher profits and ultimately higher financial performance. The advantages of economies of scale of large institutions should be fully maximized so as to sustain higher financial performance of SACCOs.

REFERENCES

Abisola, A. (2021). The nexus between bank size and financial performance: Does internal control adequacy matter? Pan-Atlantic University, Lagos, Nigeria. Journal of Accounting and Taxation. Vol. 14(1), pp. 13-20, January-March 2022 DOI: 10.5897/JAT2021.0501 Article Number: F9EDE5568305 ISSN 2141-6664

Alio, D., Okiror, J. J., Agea, J. G., Matsiko, F. B. & Ekere, W. (2017). Institutional determinants of credit utilization in the savings and credit cooperatives in Soroti district, Uganda. African Journal of Rural Development, pp. 172-182.

Baron, M., & Kenny, A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic and Statistical Considerations. *Journal of Personality and Social Psychology*, 51 (6), 1173- 1182.

Birchall, J., (2004). Cooperatives and the Millennium Development Goals, Geneva: International Labor Office. http://community-wealth.org/sites/clone.community-health.org/files/downloads/book-birchall.pdf

Gathara, M. Z. (2019). Financial Structure and Financial Performance of Selected Firms listed at Nairobi Securities Exchange, Kenya. Unpublished PhD thesis, Kenyatta University, Kenya

Kahuthu, D. G. (2016). Impact of Prudential Regulation on Financial Performance of deposit-taking savings and credit cooperative societies in Kenya, PhD (Business Administration, Finance) dissertation. *Jomo Kenyatta University of Agriculture and Technology.*

Kamau, J. K., & Guyo, W., (2017). The effects of SACCOS' regulations on the performance of Savings and Credit Societies (SACCOS) in Kenya: A case of SACCOS in Nairobi, *International Journal of Business Management and Finance*, 1(8), pp. 121-131.

Karuga, F. W. (2017). Relationship between firm size and financial performance of DT-SACCOs in Kenya. (MBA Project, University of Nairobi)

Kinyua, J. W. (2013). Relationship between financial performance and size of deposit taking Savings and Credit Cooperative Societies in Kenya (MBA Thesis, University of Nairobi).

Marwa, N. & Aziakpono, M., (2016). Financial sustainability of Tanzanian savings and credit cooperatives. *International Journal of Social Economics*, 42(10), pp. 870-887. https://doi.org/10.1108/IJSE-06-2014-0127

McInnes, A. N. S., (2020) Working capital management: Theory and evidence from New Zealand Listed limited liability companies [MCM Thesis, Lincoln University]

Mutunga, M & Gatauwa, J (2021). Firm Characteristics and Financial Performance of DT-SACCOs in Nairobi County, Kenya. *International Research Journal of Business and Strategic Management*, 3(3), 772-787.

Nnyanja W. (2017). The role of saving and credit cooperatives in improving household income: The Case for Teachers in Mukono District.

Ongore V. O. & Kusa G. B. (2013). Determinants of Financial Performance of Commercial Banks in Kenya. International Journal of Economics and Financial Issues, Vol. 3, No. 1, pp. 237-252. www.econjournals.com
https://doi.org/10.53819/81018102t4244

SASRA (2020). *The SACCO Supervision Annual Report, 2019*. Nairobi, Kenya. Available from http://www.sasra.go.ke.

Saunders, A., & Cornett, M.M., (2011). Financial Markets and Institutions: An Introduction to a Risk Management Approach. (6th ed.). New Delhi: Savings banks.

Shibutse, R., Kalunda, E., & Achoki, G. (2019). Effect of leverage and firm size on financial performance of deposit taking savings and credit cooperatives in Kenya. *International Journal of Research in Business and Social Science (2147-4478), 8*(5), 182-193.

Teimet, R., Lishenga, J., Iraya, M., & Duncan, E. (2019). The Effect of Bank Size on Profitability of Commercial Banks in Kenya. *International Journal of Economics, Commerce and Management, United Kingdom*, 202-216.

UN (2013). The United Nations, Cooperatives in social development and the observance of the International Year of Cooperatives. Report of the Secretary-General: A/68/168, Item 27 (b) of the provisional agenda, 22 July 2013.

WOCCU (2018). World Council of Credit Unions. 2017 Statistical Report. *World Council of Credit Unions,* Washington D.C. Available: http://www.woccu.org/documents/2017_Stat_Report.

Yatsenko, O., Nitsenko, V. S., Mardani, A., Streimikiene, D., & Tananaiko, T. (2019). Global risks of trade and economic cooperation of Ukraine with countries of the Northern American region.