

# Effect of Statutory Regulations on Financial Performance of Deposit Taking Savings and Credit Cooperative Organizations in Nakuru County, Kenya

<sup>1</sup>Kiplangat Ngetich Onchwari, <sup>2</sup>Antony Wahome

<sup>1</sup>MBA (Finance) Student, <sup>2</sup>Lecturer,

<sup>1,2</sup> Jomo Kenyatta University of Agriculture and Technology, Thika, Kenya

---

**Abstract:** The purpose of this study therefore was to assess the effect of selected statutory regulations on financial performance of SACCOs. The study was guided by four theories; Buffer theory of Capital Adequacy, Capital Asset Pricing Model, Earnings Theory of Capitalization and Anticipated Income Theory. The study employed a descriptive research design using quantitative approaches. The target population was FOSA managers, finance managers, credit managers and internal auditors all totaling 64 targeted respondents from SACCOs in Nakuru County, Kenya. The study used a census approach to collect data and it used closed ended questionnaires in collecting primary data. Secondary data was collected from SASRA annual publications. The questionnaires were pretested to ensure validity and reliability. The collected data was summarized and analysed using both descriptive and inferential statistics and then presented in tables. From the findings, capital adequacy ( $r = 0.267$ ) and asset quality ( $r = 0.080$ ) had a positive and weak correlation with ROE. The study concluded that since all the variables had some effect on financial performance, it would be prudent for SACCO to adhere to these regulations in order to enhance their performance.

**Keywords:** Statutory Regulations, Financial Performance and Deposit taking Sacco's.

---

## I. INTRODUCTION

The regulations of SACCOs have been introduced in many different region across the globe. For example, India adopted a regulation that gave cooperatives a hybrid business alliance system that has enabled the cooperative owned business to grow to big empire of companies and own vast properties around and outside India (Fischer and Cuevas, 2006). Similarly, UNISAP Federation is responsible for SACCO control in Mexico and has seen SACCOs grow to have lower risk than banks. The SACCOs have hence grown and patronizes more than 60% of the total Mexican rural population (Be'roff, 2008). Canada adopted a DEA (data envelopment analysis) system that checks; asset to equity ratio and a modified Z-score of all credit unions and compares them weekly to a fixed score. This has made SACCOs to operate prudently hence fewer cases of cooperative failure (Pille and Puradi, 2002). In U.S credit unions were regulated by non-banking financial institution laws SEC (securities and exchange) Act. The system consists of complex rules that guide the operations of credit unions in the country. The system was introduced on the aftermath of great depression of 1929 and was meant to improve the public confidence on financial institution; it has been in force to date (Kumar et al, 1997). In the African context, a number of countries have adopted cooperative sector regulations notably, Egypt, Nigeria, South Africa and closer home, Tanzania. In Egypt, regulation of credit union controlled strictly as the government sets the ceiling interest rate for issuing loans. Credit unions are also registered and managed directly by ministry of economy hence few cases of mismanagement of the unions. The regulations are however too stringent hence lead to the rise of an underground lending market by unregistered individuals come together and loan money amongst themselves (Mahmoud and Wright, 2000). In the West African region, cooperative societies are very popular, more so in Nigeria. Onuoha (2002) in his study of

cooperative history in Nigeria state that modern cooperative societies came as a result of the Nigerian cooperative society law enacted in 1935 following the report submitted by C. F. Strickland in 1934 to the then British colonial administration on the possibility of introducing cooperatives into Nigeria (Ebonyi and Jimoh, 2002).

By the end of 2010 there were about 8000 registered SACCOs, the majority being salary SACCOs catering for those in employment. SACCOs contribute 45% of the country's GDP and to date the sub-sector has effectively mobilized over Kshs. 200 billion deposits and assets totaling to Kshs. 210 billion. These enormous resources should give SACCOs a basis to compete in a liberalized environment. However, a recent study by FSD (2009) however, revealed that SACCOs are facing severe liquidity problems and majorities are unable to meet the demands of their clients for loans and withdrawal of savings. There is therefore need to understand the factors influencing financial performance of SACCOs in order to provide appropriate measures that can mitigate against such factors.

### **1. Statement of the Problem:**

Despite the enforcement of SASRA regulations in Kenya, SACCOs still face number of challenges in their attempt to meet their performance targets. SASRA Act and the accompanying regulations were thus seen as a cure to the many challenges bedeviling the SACCO sector. The regulations stipulate that the management has to present the capital adequacy return reports, liquidity statement report, statement of financial position and statement of deposit return as well as return on investments report which compares land, building, and financial assets to the SACCO's total assets and its core capital. According to the SASRA report 2016, a total of 168 SACCOs were fully compliant with the minimum core capital in 2016, as opposed to 173 SACCOs that maintained the compliance level in 2015. This means that there was a drop in the level of compliance by five (5) SACCOs in terms of the prescribed absolute core capital requirements. The report further notes that the ratio of non-performing loans (NPLs) to total gross loans increased in the aggregate from 5.12% in 2015 to 5.23% in 2016. This demonstrates a marginal worsening of the loan recovery methodologies employed by SACCOs. Various studies such as those of Biwott (2014) and Buluma et al., (2015) have reported that before the enactment of the SASRA Act, the SACCO sector had a myriad of challenges; a number of SACCOs collapsed due to mismanagement, SACCO managers made imprudent investments, liquidity management was a serious problem, and there were a lot of challenges in loan administration with many cases insider loans leading to a collapse of many SACCOs. Further, since there is no evidence of studies in Kenya that have adopted the CAEL framework and thus this study sought to fill this existing knowledge gap.

### **2. Objective of the Study:**

The general objective of the study was to analyze the effect of selected statutory regulations on financial performance of SACCOs. Specific objectives included:

- i. To evaluate the effect of capital adequacy regulations on financial performance of SACCOs in Nakuru County, Kenya
- ii. To determine the effect of asset quality regulations on financial performance of SACCOs in Nakuru County, Kenya

### **3. Research Hypotheses:**

In conducting the study the following hypothesis were tested

**Ho<sub>1</sub>:** Capital adequacy regulations does not have a significant effect on financial performance of SACCOs.

**Ho<sub>2</sub>:** Asset quality regulations do not have a significant effect on financial performance of SACCOs

## **II. LITERATURE REVIEW**

### **1. Theoretical Review:**

**Buffer Theory of Capital Adequacy:** The buffer theory of Calem and Rob (1996) predicts that a bank approaching the regulatory minimum capital ratio may have an incentive to boost capital and reduce risk in order to avoid the regulatory costs triggered by a breach of the capital requirements. In capital buffer theory, banks aim at holding more capital than recommended. Regulations targeting the creation of adequate capital buffers are designed to reduce the procyclical nature of lending by promoting the creation of countercyclical buffers (Milne & Whalley, 2001). Moreover these regulations are designed to reduce the procyclical nature of lending by promoting the creation of countercyclical buffers (Khawish, 2011). The capital buffer is the excess capital a bank holds above the minimum capital required. The capital buffer theory implicates that banks with low capital buffers attempt to rebuild an appropriate capital buffer by raising capital and banks

with high capital buffers attempt to maintain their capital buffer. More capital tends to absorb adverse shocks and thus reduces the likelihood of failure. Banks raise capital when portfolio risk goes up in order to keep up their capital buffer which appears to relate to determinant of capital adequacy and performance of commercial banks. According to Ikpefan (2013), capital is more reliable, dependable and can be used for long term planning. Ability of SACCOs to mobilize enough deposits obviates the capital base from being eroded. The buffer theory predicts that a SACCO approaching the regulatory minimum capital ratio may have an incentive to boost capital and reduce risk in order to avoid the regulatory costs triggered by a breach of the capital requirements. However, poorly capitalized SACCOs may also be tempted to take more risk in the hope that higher expected returns will help them to increase their capital. This is one of the ways risks relating to lower capital adequacy affects SACCO operations. In the event of bankruptcy of a SACCO, the risks are absorbed by the SACCO, customers and SASRA. The buffer theory can thus be used to explain capital adequacy issues and their related capital adequacy requirements in the SACCO subsector in Kenya. In this context, SACCOs may prefer to hold a 'buffer' of excess capital to reduce the probability of falling under the legal capital requirements, especially if their capital adequacy ratio is very volatile. SACCOs will require more capital if deposits are not fully mobilized from the public.

**Capital Asset Pricing Model:** The Capital Asset Pricing Model (CAPM) was introduced by Jack Treynor in 1962, William Sharpe in 1964, John Lintner in 1965 and Jan Mossin in 1966 independently, building on the earlier work of Harry Markowitz on diversification and modern portfolio theory (Craig, 2003). The capital asset pricing model (CAPM) is a model used to determine a theoretically appropriate required rate of return of an asset, to make decisions about adding assets to a well-diversified portfolio. The model assumes that all active and potential shareholders have access to the same information and agree about the risk and expected return of all assets. The market portfolio consists of all assets in all markets, where each asset is weighted by its market capitalization. This assumes no preference between markets and assets for individual active and potential shareholders, and that active and potential shareholders choose assets solely as a function of their risk-return profile. It also assumes that all assets are infinitely divisible as to the amount which may be held or transacted. The capital asset pricing model explains the risk of a particular asset or portfolio using the excess return on the market portfolio. The model suggests that investors should hold diversified portfolios, and predicts that investors will hold some fraction of the market portfolio. Furthermore, an important implication of the CAPM, also referred to as efficient markets hypothesis, is that investors lacking special investment knowledge would be well advised to buy and hold diversified portfolios. The model can thus be used to explain asset quality and its related regulations as used in the SACCO sector in Kenya. The CAPM shows that investors require high levels of expected returns to compensate them for high expected risk. However, it is now widely recognized that in the presence of informational asymmetries and contract enforcement problems, it is not necessarily true that the SACCO system will allocate resources to projects or firms with the highest returns. Empirical evidence based on mean-variance portfolio selection, simulation analysis, and out of sample portfolio performance suggests that correcting for estimation error, particularly in the means, can substantially improve investment performance. The assumption is that quality assets/ loans are one of the items in a SACCO's portfolio. A SACCO portfolio consists of both assets and liabilities. It is the SACCO manager's job to construct a portfolio to yield a high return at the same time reduce its risk.

## 2. *Empirical Review:*

**Capital Adequacy Regulations and Financial Performance:** Capital is the amount of own fund available to support the bank's business and act as a buffer in case of adverse situation (Athanasoglou et al., 2005). Capital creates liquidity for the financial institution due to the fact that deposits are most fragile and prone to the organization's runs. Moreover, greater capital reduces the chance of distress (Diamond, 2000). However, it is not without drawbacks that it induces weak demand for liability, the cheapest sources of fund capital adequacy is the level of capital required by the financial institution to enable them withstand the risks such as credit, market and operational risks they are exposed to in order to absorb the potential losses and protect the institution's debtors. According to Dang (2011), the adequacy of capital is judged on the basis of capital adequacy ratio (CAR). Capital adequacy ratio shows the internal strength of the organization to withstand losses during crisis.

Capital adequacy ratio is directly proportional to the resilience of the financial institution to crisis situations. It has also a direct effect on the profitability by determining its expansion to risky but profitable ventures or areas (Sangmiand Nazir, 2010). Capital adequacy refers to a relative measure: it establishes the maximum level of leverage that a financial institution is allowed to reach on its operations (Jansson, 1997). It is measured by the ratio of risk-weighted assets relative to regulatory equity, commonly known as a capital adequacy ratio of 8%. Nonetheless, it has to be remembered that this

prudential standard was intended to be applied to international and large banking institutions from developed countries, and that it has been translated to several financial systems in developing countries despite the well-known differences in institutional risk profile, scale of operations and national economic environments (Guidotti et al., 2004). In many developing countries, this regulatory requirement has also been extended to MFIs and SACCOs. But, it is argued that the capital adequacy ratio required should be higher than the one applied for banks due to the special features of the microfinance portfolio, which is characterized by a high volatility and scarce geographical diversification (Christen et al., 2003). This implies that, given a level of delinquency of loan portfolio, a MFI is likely to lose its capital more quickly than a banking institution; so, there is a need to comply with a lower level of leverage, that is, a higher capital adequacy ratio (Vogel et al., 2000). Besides, MFIs are less likely to respond quickly to capital calls from the supervisor when facing significant capital losses that could lead to a situation of insolvency, because of the weaker position of their shareholders (Jansson et al., 2004).

**Asset Quality Regulations and Financial Performance:** The financial institution's asset is another specific variable that affects the profitability of a financial institution. The institution's asset includes among others current asset, credit portfolio, fixed asset, and other investments. Often a growing asset (size) related to the age of the financial institution (Athanasoglou et al., 2005). More often than not the loan of a financial institution is the major asset that generates the major share of the institutions income. Loan is the major asset of financial institutions from which they generate income. The quality of loan portfolio determines the profitability of the financial institutions. The loan portfolio quality has a direct bearing on financial institution's profitability.

The highest risk facing a financial institution is the losses derived from delinquent loans (Dang, 2011). Thus, nonperforming loan ratios are the best proxies for asset quality. Different types of financial ratios used to study the performances of financial institutions by different scholars. It is the major concern of all financial institutions to keep the amount of nonperforming loans to low level. This is so because high nonperforming loan affects the profitability of the financial institutions. Thus, low nonperforming loans to total loans shows that the good health of the portfolio a financial institutions such as SACCOs. According to Sangmi and Nazir (2010), the lower the ratio the better the SACCOs financial performance. The current study therefore will attempt to establish the effect of asset quality regulations on financial performance of SACCOs.

### III. METHODOLOGY

#### 1. *Research Design and Target Population:*

A descriptive approach was adopted in this study. A descriptive research design is the process of collecting data from the members of a population in order to determine the relationship between variables study, this is because the researcher wanted to establish the relationship between two variables. The study aimed at analyzing the effects of statutory regulations on financial performance of SACCOs in Nakuru County, Kenya. The target population comprised branch managers, finance managers, credit managers and internal auditors of the deposit-taking SACCOs in Nakuru County. Available data indicate that there are eight (8) deposit taking SACCOs in the town which operate Front Office Services and are registered by SASRA; including Cosmopolitan, Metropolitan, Boresha, Stima, Mwalimu, Uni-County, Unaitas and Vision Africa. The SACCOs have a combined targeted staff population of 64. Since the targeted population is fairly small, the study used a census technique to collect data. The entire target population was therefore form the sample of the study.

#### 2. *Research Instruments and data collection and analysis:*

The study collected both primary and secondary data. In this study an appropriate method to collect the primary data is a questionnaire survey. The study used closed ended questionnaires as the main tools for collecting data. For convenience and better analysis, a five point Likert scale was used. A self-administered questionnaire was constructed based on the above-mentioned instruments. Further, the researcher sourced secondary data using a data collection sheet. Data was collected primarily using closed ended questionnaires. Secondary data such as dividend paid out was sourced from SASRA's annual financial documentation. The researcher attempted to personally administer the questionnaires to ensure correct information is received from the respondents. Secondary data was also be collected from annual financial publications and relevant documentation from the specific SACCOs. The data collection instruments were pretested in Baringo Farmers SACCO in order to ensure the reliability and validity of the instruments. The SACCO was chosen because its regulated by SASRA and operates out of Nakuru County. Piloting was done on 10 respondents who did not

form part of the sample. To ensure validity, the researcher used accurate measuring instruments, standardize data collection procedures by guiding the respondents appropriately and carried out piloting to determine usefulness of instruments, clarity in terminology, focus of questions, relevance and applicability, time required and methods for analysis. The findings of the pilot study and the respondents’ comments were used to enhance the quality of the questionnaires so that they adequately address the constructs of the study. Utilizing data from the pilot test, the reliability was determined through the Cronbach alpha coefficient analysis. The Cronbach alpha reliability recommends a reliability coefficient of  $\alpha = 0.70$  and above. Cronbach alpha provides a good measure of reliability because holding other factors constant the more similar the test content and conditions of administration are, the greater the internal consistency reliability.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + e \dots \dots \dots (1)$$

Where Y is dependent variable organizational innovation,  $X_1$ -  $X_2$ : are independent variables ,  $X_1$ : Capital Adequacy,  $X_2$ : asset quality,  $\beta_1$  and  $\beta_2$ : are the coefficients of independent variables,  $\beta_0$ : intercept term and e: stochastic error term.

#### IV. RESULTS AND DISCUSSIONS

##### 1. Response Rate:

The researcher issued 64 questionnaires to the respondents across all the targeted SACCOs in Nakuru County, Kenya. In each SACCO, the researcher sought contact persons to enable easier issuance and clarification on the issues that were unclear. Out of 64 questionnaires that were issued to the sampled respondents, 57 of them were filled and returned. Of the returned questionnaires, 5 were incorrectly filled and thus were not used in the final analysis. Therefore, 52 questionnaires were correctly filled and hence were used for analysis representing a response rate of 81.25%. The high response rates meant the findings can be used to generalize performance issues in the targeted SACCOs.

##### 2. Demographic analysis:

The background information that was retained for analysis relating to the respondents included: According to the findings, majority of employees are male (63.5%) while female were 36.5%. The researcher deduced that most respondents were male and attributed the trend to the existing gender gap in employment in most sectors in Kenya today. majority of the respondents in the targeted SACCOs are of the age group 41 – 50 years (71.2%) while the least age group was between 31-40 years (7.7%). The researcher attributed this trend to the nature of progression of employees in SACCOs where management positions are often filled by those who have progressed through the ranks which would always take longer periods to achieve. Study established that 48.1% of the respondents had a master degree or above level of education which was attributed to the higher entry qualification levels in the SACCO sector in Kenya. Further, over 90% of the respondents had at least an undergraduate degree further indicating higher educational requirements needed to join the SACCO sector. Majority of the respondents (40.4%) had worked for the SACCOs between 8 to 10 years. Cumulatively, more than 67.3% had more than 8 years of experience while only 15.4% had less than 3 years of working experience. This trend was attributed to the fact that most employees rise through the ranks over some period of time which translates to higher work experience and longer duration in their respective SACCOs. Further, the longer experience implied that most employees clearly know the workings of their SACCOs and thus their responses would be valid and relevant.

##### 3. Effect of Capital Adequacy Regulations on Financial Performance:

The study sought to establish the effect of capital adequacy regulations on financial performance. The results of the analysis on factors associated with capital adequacy and how it influences financial performance are shown in Table 1

. Table 1: Effect of Capital Adequacy Regulations on Financial Performance

	n	Min	Max	Mean	Std. Dev.
Our SACCO has had a high capital adequacy ratio due to the strict adherence to regulations	52	2	5	3.79	1.035
Our SACCO is inadequately capitalized to meet modern day challenge and it thus seeks capital infusion from external sources	52	3	5	4.10	.774
SACCOs with higher levels of capital tend to perform better than their undercapitalized peers	52	1	5	3.31	1.502

Adequate capital provides the ultimate protection against insolvency and liquidation arising from the risk in the SACCO business	52	1	5	3.50	1.540
Higher capital levels arising from adherence to regulations in our SACCO has enhanced our risk mitigation process	52	1	5	3.25	1.219
Higher capital levels arising from adherence to capital regulation has enhanced our customer product portfolio	52	2	5	3.21	1.035

From the findings in Table 1, majority of the respondents agreed that their SACCO has had a high capital adequacy ratio due to the strict adherence to regulations (3.79), that their SACCO is inadequately capitalized to meet modern day challenge and it thus seeks capital infusion from external sources (4.10) and that adequate capital provides the ultimate protection against insolvency and liquidation arising from the risk in the SACCO business (3.50). The respondents were however unsure whether SACCOs with higher levels of capital tend to perform better than their undercapitalized peers(3.31), whether higher capital levels arising from adherence to regulations in their SACCO has enhanced our risk mitigation process (3.25) or whether higher capital levels arising from adherence to capital regulation has enhanced our customer product portfolio (3.21).

#### 4. Effect of Asset Quality Regulations on Financial Performance:

The study further sought to establish the effect of asset quality regulations on financial performance in line with the second study objective. Table 2 shows the findings related to asset quality regulations and financial performance.

**Table 2: Effect of Asset Quality Regulations on Financial Performance**

	n	Min	Max	Mean	Std. Dev.
Our SACCO's ratio of net non-performing loans to the gross loans has been low due to adherence to asset quality regulations	52	2	4	3.37	.817
Our SACCO carefully grants loans that are well examined and in compliance to existing regulations	52	1	5	3.54	.979
Our SACCO has a sound credit culture that is trusted by our customers	52	1	4	3.02	.874
Our SACCO's credit policies are integrated with performance objectives and in line with asset quality regulations	52	1	5	3.37	1.329
The SACCO credit management system involves all departments that handle customers thereby minimizing the negative effects of bad debts	52	1	5	2.98	1.111
Higher asset quality levels arising from adherence to regulations has enhanced our customer product portfolio	52	2	5	3.29	.848

The respondents, on average, agreed that their SACCO carefully grants loans that are well examined and in compliance to existing regulations (3.54). However, majority of the respondents were unsure when asked whether their SACCO's ratio of net non-performing loans to the gross loans has been low due to adherence to asset quality regulations (3.37), whether their SACCO has a sound credit culture that is trusted by our customers (3.02), whether their SACCO's credit policies are integrated with performance objectives and in line with asset quality regulations (3.37), whether their SACCO credit management system involves all departments that handle customers thereby minimizing the negative effects of bad debts (2.98) and whether higher asset quality levels arising from adherence to regulations has enhanced our customer product portfolio (3.29). On average, the other responses had a standard deviation close to 1.000 which indicated smaller dispersion from the mean which was interpreted to mean convergence of responses on the particular propositions.

#### 5. Correlation Analysis:

In this subsection the correlation analysis using the Pearson Product Moment Correlation was made to first determine the degree of multicollinearity between the independent variables and also show the degree of their association with the dependent variable separately and the resulting correlation matrix given in Table 3 and table 4

**Table 3: Correlation Analysis (ROA)**

		ROA	Capital Adequacy	Asset Quality
ROA	Pearson Correlation	1		
	Sig. (2-tailed)			
Capital Adequacy	Pearson Correlation	.259	1	

	Sig. (2-tailed)	.064		
Asset Quality	Pearson Correlation	.059	.275*	1
	Sig. (2-tailed)	.675	.048	

From the findings, capital adequacy ( $r = 0.259$ ) and asset quality ( $r = 0.059$ ) had a positive and weak correlation with ROE. These findings are similar to those of Nyathira (2012).

**Table 4: Correlation Analysis (ROE)**

		ROE	Capital Adequacy	Asset Quality
ROE	Pearson Correlation	1		
	Sig. (2-tailed)			
Capital Adequacy	Pearson Correlation	.267	1	
	Sig. (2-tailed)	.056		
Asset Quality	Pearson Correlation	.080	.275*	1
	Sig. (2-tailed)	.572	.048	

From the findings, capital adequacy ( $r = 0.267$ ) and asset quality ( $r = 0.080$ ) had a positive and weak correlation with ROE. These findings are similar to those of Nyathira (2012). The findings for both ROA and ROE are consistent on the effect of capital adequacy and asset quality.

## 6. Regression Analysis:

**Regression Model Summary:** The study carried out a regression analysis to test the significance of the effect of the independent variables on financial performance measured as ROA and ROE. The model summary is shown in Table 5.

**Table 5: Regression Model Summary (ROA)**

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std Error of the Estimate
1	.267 <sup>a</sup>	.071	-.008	.127535

The R<sup>2</sup>, the coefficient of determination shows variability in dependent variable explained by the variability in independent variables. This value tells us how ROA can be explained by the independent variables. The R<sup>2</sup> value of 0.071 implies that 7.1% of the variations in ROA can be explained by the variations in independent variables. This therefore means that other factors not studied in this study contribute 92.7% of ROA. Further analysis was carried out using ROE and the findings are shown in Table 6.

**Table 6: Regression Model Summary (ROE)**

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std Error of the Estimate
1	.277 <sup>a</sup>	.077	-.002	.098079

The R<sup>2</sup> value of 0.077 implies that 7.7% of the variations in ROE can be explained by the variations in independent variables. This therefore means that other factors not studied in this study contribute 92.3% of ROE.

**Multiple Regression Analysis:** The researcher further conducted a multiple regression analysis using ROE and the findings of the multiple regression model are depicted in Table 7. From the multiple regression model, holding all the independent variables constant, financial performance of SACCOs would increase by 0.329.

**Table 7: Multiple Regression Analysis**

Model		Unstandardized Coefficients		Standardized Coefficients	t	p
		B	SE	B		
1	Constant	.329	.159		2.066	.044
	Capital Adequacy	.031	.018	.263	1.758	.085
	Asset Quality	.003	.025	.016	.109	.913

Further, it was established that a unit increase in capital adequacy regulations would cause an increase in financial performance by a factor of 0.031, a unit increase in asset quality regulations would cause an increase in financial performance by a factor of 0.003. The un-standardized beta coefficients in 6 were then used to obtain the overall relationship of the independent variables and the dependent variable and model was formulated as:

$$Y = 0.329 + 0.031X_1 + 0.003X_2$$

Where Y = Financial Performance, X<sub>1</sub> = Capital Adequacy Regulations, and X<sub>2</sub> = Asset Quality Regulations,

**Analysis of Variance (ANOVA):** The researcher sought to compare means using analysis of variance. ANOVA findings (P-value of .429) in Table 8 show that there is no significant correlation between the predictor variables (capital adequacy and asset quality) and dependent variable (financial performance of SACCOs).

**Table 8: Analysis of Variance (ANOVA<sup>a</sup>)**

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	.038	4	.009	.978	.429 <sup>b</sup>
Residual	.452	47	.010		
Total	.490	51			

Dependent Variable: ROE

From the findings, ANOVA results (p= 0.429) indicated that there is no significant correlation between the predictor variables (capital adequacy and asset quality) and dependent variable (financial performance of SACCOs. This could be attributed to the use of secondary data for performance measures when tackling branch level data.

## V. CONCLUSION

### 1. Conclusion:

From the findings of the study, the following conclusions were made: It was concluded that most SACCOs had a high capital adequacy ratio due to the strict adherence to regulations, that majority of SACCOs are inadequately capitalized to meet modern day challenge and it thus seeks capital infusion from external sources and that adequate capital provides the ultimate protection against insolvency and liquidation arising from the risk in the SACCO business. Though there was lack of clarity on whether SACCOs with higher levels of capital tend to perform better than their undercapitalized peers, whether higher capital levels arising from adherence to regulations in their SACCO has enhanced our risk mitigation process or whether higher capital levels arising from adherence to capital regulation has enhanced our customer product portfolio, it was concluded that capital adequacy regulations had some effect on financial performance. The study also concluded that most SACCOs carefully grants loans that are well examined and in compliance to existing regulations. However, it was unclear whether SACCO's ratio of net non-performing loans to the gross loans has been low due to adherence to asset quality regulations, whether SACCOs had a sound credit culture that is trusted by our customers, whether SACCO's credit policies were integrated with performance objectives and in line with asset quality regulations, whether SACCO credit management system involved all departments that handle customers thereby minimizing the negative effects of bad debts and whether higher asset quality levels arising from adherence to regulations had enhanced our customer product portfolio. Since the correlation analysis carried out indicated that asset quality a positive and weak correlation with ROA and ROE, it was asset quality had some effect on financial performance and thus SACCOs should embrace asset quality regulations for better performance.

After drawing inferences in line with the study objectives, the researcher has proposed pertinent recommendations. The recommendations are based on the inferences drawn from the regression analysis and the conclusions drawn. The study recommends that comparative analysis of SACCOs with higher levels of capital to ascertain whether they perform better than their undercapitalized peers. Further, SACCO should analyze whether higher capital levels arising from adherence to regulations in their SACCO enhances their risk mitigation process. Finally, SACCO should clarify whether higher capital levels arising from adherence to capital regulation enhances their customer product portfolio. The study recommends that SACCO's ratio of net non-performing loans to the gross loans to be further investigated to ascertain its link asset quality regulations. Further, SACCO's credit culture can be investigated from a customer perspective. Finally, the study recommends that SACCO's credit policies be integrated with performance objectives and in line with asset quality regulations.

## REFERENCES

- [1] Akram, K., Siddiqui, S. H., Nawaz, M. A., Ghauri, T. A., and Cheema, A. K. H. (2011). Role of knowledge management to bring innovation: an integrated approach. *Cell*, 92(333), 6183035.
- [2] Abata, M. (2014). Assets Quality and Bank Performance: A Study of Commercial Banks in Nigeria. *Research Journal of Finance and Accounting*, 5 (18), 39 – 44.
- [3] Abdullah, H., &Valentine, B. (2009).Fundamental and Ethics Theories of Corporate Governance. *Middle Eastern Finance and Economics*, 4,88-96

- [4] Ademba, C. (2011). *Challenges facing Sacco Regulation in Africa*. 11th SACCA Congress: Swaziland, 12 (1), 42-48.
- [5] Athanasoglou, P., Sophocles, B., & Matthaios, D. (2005). *Bank-specific, industry-specific and macroeconomic determinants of bank profitability*. Working paper, Bank of Greece. 1(1), 3-4.
- [6] Auka, O., & Mwangi, J. (2013). Factors Influencing SACCO Members to Seek Services of Other Financial Service Providers in Kenya. *International Review of Management and Business Research*, 2(2), 610-626.
- [7] Bhimani, A. (2008). Making Corporate Governance Count: The Fusion of Ethics and Economic Rationality. *Journal of Management and Governance*, 12(2), 135-147.
- [8] Biwott, K. (2014). The effect of regulation by SASRA on performance of small SACCOs in Kenya. Unpublished MBA thesis, Kabarak university.
- [9] Bruton, G., Fired, V., & Hirsch, D. (2000). CEO dismissal in venture capital based firms: further evidence from an agency problem, *Entrepreneurship theory and practice*, 24(4), 69-77.
- [10] Bryman, A. & Bell, E. (2003). *Business Research Methods*. New York: Oxford University Press Inc.
- [11] Buluma, F. C. O., Kung'u, J., & Mungai, F. N. (2017). Effect of SASRA regulations on financial performance of Nyandarua County's deposit taking SACCOs in Kenya. *International Journal of Economics, Commerce and Management*, 5(7), 614-636
- [12] Central Bank of Kenya (2011) *Bank Supervision Annual Report*, Kenya.
- [13] Chahayo, A., Bureti, F., Juma, M., Douglas, M., & Aketch, A. (2013). Analysis of Financial Mismatch in Co-Operative Societies: A Case of Kakamega County, Kenya. *International Journal for Management Science and Technology*, 1(5), 1-29.
- [14] Chege, K. P. (2006). Project Proposal on Effects of Members' Deduction by the Employees to the Saving and Credit Cooperatives Societies. A Case of Nairobi Province While Looking at its Relationship with the SACCO Performance. *International Journal of Business and Social Science*, 5(26) 687-693.
- [15] Clark, T. (2004). *Theories of Corporate Governance: The Philosophical Foundations of Corporate Governance*. London: Routledge Publishers.
- [16] Cooper, R.D., & Schindler, P. S. (2011). *Business Research Methods 11th edition*. New York: McGrawHill Publications
- [17] Cornett, M., Marcus, A., Saunders, A., & Tehranian, H. (2007). The Impact of Institutional Ownership on Corporate Performance. *Journal of Banking and Finance*, 31, 1771-1794.
- [18] Christen, R., Lyman, T., & Rosenberg, R. (2003). Microfinance consensus guidelines: Guiding Principles on regulation and suspension of microfinance. *Washington CGPAP*. 57-71.
- [19] Cunliffe, A., & Luhman, J. (2013). *Key Concepts in Organization Theory*. Washington: Sage Publications.
- [20] Craig W. (2003). The Treynor Capital Asset Pricing Model. *Journal of Investment Management*. 1 (2), 60-72.
- [21] Daily, M., Dalton, R., & Canella, A. (2003). Corporate Governance: Decades of Dialogue And Data. *Academy of Management Review publishers*, 28(3), 371-382.
- [22] Dang, U. (2011). *The CAMEL Rating System in Banking Supervision: a Case Study of Arcada University of Applied Sciences*, International Business.
- [23] Daniel, K. D., Hirshleifer, D., & Subrahmanyam, A. (2001). Overconfidence, Arbitrage, and Equilibrium Asset Pricing. *Journal of Finance*. 56 (3), 921-965.
- [24] Diamond, W., & Raghuram, A. (2000). A Theory of Bank Capital. *The Journal of Finance*, 52(6), 12-23.
- [25] De Vos, A. S. (1998). *Research at Grass Roots: A Primer for the Caring Professions*. Pretoria: VanSchaik Publishers. Ferri, G., & Kalmi, P. (2014). *Regulatory Burden and Its Effects on Credit Unions*. Filene Research Institute.

- [26] Fraenkel, R., & Wallen, E. (2000). *How to design and evaluate research in education* (4<sup>th</sup>Ed.). Boston: Mc GrawHill Publishers.
- [27] Freeman, R., Harrison, J., Wicks A., & Parmar, B. (2004). Stakeholder Theory and The Corporate Objective Revisited, *Organization Science*, 15(3), 364-369.
- [28] Financial Sector Deepening, (2009) *Saving Credit Cooperative Societies Large SACCO Restructuring Facility outline*, Retrieved 18 February 2015, from, [www.fsdkenya.org](http://www.fsdkenya.org)
- [29] Gathurithu, W. (2011). *An investigation into the factors affecting marketing of Sacco products in Thika, Kenya*. A research project submitted at Makerere University, Uganda.
- [30] Guidotti, P., Rojas-Suarez, L., & Zahler, R. (2004). *Designing financial regulatory policies that work for SACCOs*.
- [31] Hendricks, K., & Singhal, V. (2001). Firm characteristics, total quality management and financial performance, *Journal of Operations Management*, 19(3), 269–285.
- [32] Ikpefan O. A. (2013). Capital adequacy, management and performance in the Nigerian commercial bank (1986 - 2006), *African Journal of Business Management*, 7(30), 2938-2950.
- [33] Ilhomovich, E. (2009) *Factors affecting the performance of foreign banks in Malaysia*. Malaysia: An Unpublished master thesis.
- [34] International Cooperatives Alliance ICA. (2008) *A report on the progress of credit unions in sub Sacco Regulatory Framework Workshop*. Nairobi: Silver Springs Hotel.
- [35] Jansson, T., & Mark, W. (1997). *Financial Regulations and its significance for microfinance in Latin America and the Caribbean*.
- [36] Jensen, C., & Meckling, W. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure, *Journal of Financial Economics*, 3, 305-360.
- [37] Karagu, J., & Okibo, B. (2014). Financial Factors Influencing Performance of Savings and Credit Co-Operative Organization in Kenya. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(2), 291-302.
- [38] Kathuri, N., & Pals, A. (1993). *Introduction to Educational Research*. Njoro, Kenya: Egerton University Press.
- [39] Keown, J., Martin, D., & Petty, W. (2008) *Foundations of Finance: The logic and Practise of Financial Management* (7<sup>th</sup>ed). Boston: Prentice Hall.
- [40] Kiaritha, H. (2009). *Effects of unsecured personal loans offered by commercial banks on the performance of SACCOs in Kenya*. Unpublished MBA project Kenya Methodist University.
- [41] Kobia, S. K. (2011): *The Cooperative Movement in Kenya, Challenges and Opportunities*, Nairobi: Lukiko Consulting Trust.
- [42] Kothari, R. (2006). *Research Methodology: Methods and Techniques*, New Dehli: New Age International Publishers.
- [43] Kumar, M. (2007). Ensuring Fee Income the Bancassurance Way. *Journal of Bancassurance*, 60, 12-16.
- [44] Kumar, M. (2006). Economics of Bancassurance. *Journal of Bancassurance*, 85, 1-4.
- [45] Lagat, K., Mugo, R. & Otuya, R. (2013). Effect of Credit Risk Management Practices on
- [46] Lending Portfolio Among Savings and Credit Cooperatives in Kenya. *European Journal of Business and Management*, 5(19), 93-105.
- [47] Lila, R. (2010). *Micro-Finance regulations in Bangladesh: Development and experience*.
- [48] Makori, J., Munene, C. & Muturi, W. (2013). The Challenges Facing Deposit-Taking Savings and Credit Cooperative Societies' Regulatory Compliance in Kenya. A Case of the Gusii Region. *Interdisciplinary Journal of Contemporary Research in Business*, 4(12), 1014-1081.

- [49] Ministry of Co-operatives and Marketing (2008). *An Internal Ministry Publication on The Number of Registered SACCOs in Kenya*.
- [50] Mitnick, M. (2006). *Origin of the Theory of Agency; An Account by One of the Theory's Originators*, Proceedings of SIG GlobDev Fourth Annual Workshop, Shanghai.
- [51] Mosongo, E., Gichana, I., Ithai, J. & Nguta, M. (2013). Financial Innovation and Financial Performance: A Case of SACCOS in Nairobi County. *International Journal of Research in Management*, 5(3), 93-100.
- [52] Mugenda, O. & Mugenda, A. (2003). *Research Method Quantitative & Qualitative Approaches*: Nairobi Kenya: Acts Press.
- [53] Musyoka, B. (2011). *Impact of financial Regulation on SACCOs in Kenya*. MBA Research Project, University of Nairobi.
- [54] Mwangi, I. W. & Wanjau, L. (2013). The Role of SACCO in Growth of Youth entrepreneurship in Kenya: A Case of Nairobi County. *Greener Journal of Business and Management Studies*, 3(3), 113-118.
- [55] Njagi, G. (2013). *Factors influencing members withdrawal from the SACCO: A case of Tharaka Nithi Teachers SACCO society Ltd*. Unpublished MBA Thesis, Kenya Methodist University.
- [56] Nyathira, C. (2012). *Financial Innovation and its effect on Financial Performance of Commercial Banks in Kenya*. Unpublished MBA project, University of Nairobi.
- [57] Odera, O. (2012). Corporate Governance Problems of Savings, Credit and Cooperative Societies. *International Journal of Academic Research in Business and Social Sciences*, 2(11), 89-103.
- [58] Orlando, C., Jagongo, A. & Martin, O. (2013). The Contribution of SACCO Financial Stewardship to Growth of SACCOS in Kenya. *International Journal of Humanities and Social Science*, 3(17), 112-137.
- [59] Olweny, T., & Shiphoo, T. (2011). Effects of Sectoral Factors on the Profitability of Commercial Banks in Kenya. *Economics and Finance Review*, 1(5), 1-30.
- [60] Onchangwa, G., & Memba, F. (2012). Does Savings and Credit Cooperative Societies (SACCOS) Have Any Effect on Members' Investment Culture In Kenya? *International Journal of Arts and Commerce*, 1(6), 160-166.
- [61] Padilla, A. (2002). Can Agency Theory Justify The Regulation Of Insider Trading. *The Quarterly Journal of Austrian Economics*, 5(1), 3-38.
- [62] Pollet, I. (2009). Cooperatives in Africa: The age of reconstruction – synthesis of a survey in nine African Countries, *CoopAFRICA Working Paper No. 7*, International Labour Organization, Dar es Salaam.
- [63] Quiroz, D. (2007). *The formal regulatory approach to banking regulation*, Badell & Grau Legal Consultants.
- [64] Said, M., Tumin, M. (2011). *Performance and Financial Ratios of Commercial Banks in Malaysia and China*.
- [65] Sangmi, M., & Nazir, T. (2010). Analyzing Financial Performance of Commercial Banks In India: Application of CAMEL Model. *Pakistan Journal Commercial Social Sciences*.
- [66] SASRA (2012). *SASRA supervision Reports (2012) and 2013*; Nairobi: SASRA Press.
- [67] Schmidt, R. (2000). Banking regulation contra microfinance. *Savings and Development*, 24(1), 90-94.
- [68] Staschen, S. (2003). Regulatory requirements for microfinance. *A comparison of legal frameworks in 11 countries worldwide*. 3, 56-89.
- [69] Stiglitz, J. (2001). Principles of financial regulation: a dynamic portfolio approach. *The World Bank Research Observer*, 16 (1), 1-18.
- [70] Vogel, R., Gomez, A. & Fitzgerald, T. (2000). Microfinance Regulation and Supervision. Concept Paper. *Micro-enterprise Best Practices Project*. 10, 121-125
- [71] Wanjiru, M. C. (2012). *Effect of Financial Regulation on Financial Performance of Deposit-taking Microfinance Institutions in Kenya*, (Doctoral dissertation) University of Nairobi.