

# Credit Risk Management Practices and Financial Performance of Saving and Credit Cooperative Societies in Murang'a County, Kenya

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## **Abstract:**

*Saving and Credit Cooperative Societies have become important players in the process of financial intermediation and are contributing significantly to economic development hence their ability to remain afloat is of interest to all relevant stakeholders. However, due to the gradual increase of the amount of delinquent loans, the financial performance of SACCOs has over the past several years been declining steadily. The general objective of this study was to establish the effect of credit risk management practices in the financial performance of Saving and Credit Cooperative Societies in Murang'a County, Kenya. The specific objectives were to determine the effect of credit risk governance practices, credit appraisal practices, credit collection practices and credit monitoring practices on the financial performance of SACCOs in Murang'a County. The study was guided by modern portfolio theory, adverse selection theory and agency theory. The descriptive research design was used to describe the relationship between the independent and dependent variables. Target population of this study was 156 respondents comprising of three staff from each of the 52 registered SACCOs in Murang'a County as at 31st December 2020. Stratified random sampling technique was used to select the sample. A sample size of 93 respondents was used in this study. This study employed both primary and secondary data. The primary data was obtained using a structured self-administered questionnaire formulated using closed questions based on the objectives of the study from 31 Saccos. Secondary data was obtained from audited financial reports derived from the Murang'a Sub – Counties Co-operative offices, Ministry of Industrialization, Department of Cooperatives and Sacco Society Regulatory Authority using secondary data survey sheet. The Cronbach's alpha coefficient was used for reliability test while the content validity technique was used in validating the research instruments. Data was analyzed using descriptive statistics by use of mean, standard deviation, and inferential statistics by use of correlation and multiple regression analysis. Correlation results indicated that there is significant relationship between credit risk management practices and financial performance. Multiple linear regressions showed that 57.0% variation in financial performance is significantly accounted for credit risk management practices. The study concluded that credit risk governance, credit appraisal, credit collection and credit monitoring all play significant positive influence on the financial performance. From the study findings, the study recommended that the credit appraisal practices should identify and analyze all loss exposures, and measure such loss exposures. This should guide in selection of technique or combination of techniques to handle each exposure. This study also recommends for periodic thorough scrutiny and amendment of credit monitoring policies so as to ensure that current loopholes are addressed. The study also recommends SACCOs to soften their strict credit collection policies to retain their loyal clients, which in turn will increase their performance in the long run.*

**Key Word:** Credit Risk Management Practices, Financial Performance, Saving and Credit Cooperative Societies, Credit Risk Governance, Credit Appraisal, Credit Collection, Credit Monitoring

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## **I. Introduction**

The goal of a financial intermediary is to maximize shareholder's wealth. This objective is usually accomplished at a cost and the cost generally increases the risk. Saving and Credit Cooperatives Societies (SACCOs) play this role just like the commercial banks. Unlike in other jurisdictions, the Kenyan SACCO subsector is legally and has by way of practice been divided into two segments. The differentiation is defined by the nature of savings and deposits obtained from the members. The first segment comprises the deposit Taking SACCOs (DTSs) which take demand deposits and provide over the counter accounts services like those provided by the mainstream banking institutions. The other segments comprise the non-deposit taking SACCOs (NDTS) that mobilizes saving from their members to be used as collateral for credit facilities and therefore not

withdrawn during the period of membership. It is formed by members having a common bond (Bwana & Mwakujonga, 2013).

Under the Kenya SACCO system, NDTs are registered under the Cooperative Societies Act (CSA) and are regulated by the Commissioner for Cooperative Development (CCD) while DTs are registered under the CSA and licensed under the SACCO Societies Act (SSA) under the cluster of financial cooperatives to accomplish this objective on behalf of their members. Deposit Taking SACCOs are among the three deposit-taking financial institutions in Kenya the other two being commercial banks and microfinance banks. In carrying out its mandate DTs are regulated by SACCO Societies Regulatory Authority (SASRA) while the other two falls under the ambit of Central Bank of Kenya regulations. SACCOs play a crucial role in the economy by providing saving opportunities in their specialized niche sector of the household economy (Sacco Society Regulatory Authority (SACCO Supervision Annual Report, 2017).

The government of Kenya through the Ministry of Co-operative Development and Marketing empowers the cooperative movement in Kenya and gets support through the cooperative bank of Kenya which is the bank for all SACCOs. The Cooperative College has been established in Nairobi to teach on matters relevant to the cooperative movement. This enhances competitiveness and growth in this economic sector (Cheruiyot, Kimeli & Ogendo, 2017). During the year 2020, there were a total of 3,034 registered SACCO Societies in Kenya. SACCOs Plays an important role in the economy as they act as a competitive alternative financial service provider to Kenyans as was anticipated in the Medium Term Plan (MTP) II of Kenya Vision 2030, particularly about credit provision for household economies; mobilizations of savings; and deepening of financial access and inclusion as evidenced by the modest active membership of 3.1 Million individual persons (SACCO Supervision Annual Report, 2018)

The performance of unsecured bank loan is moderately affected by risk identification and further the inspections by the bank manager affect the performance to a great extent. An effective credit risk management policy maximizes a financial sector's risk-adjusted rate of return by maintaining credit exposure within acceptable limits (Gakure, Ngugi, Ndwiga &, Waithaka, 2012). The Management of the DTs needs to be cautious in setting up a clear credit policy that will not negatively affect profitability; they should know how credit policy affects the operation of their DTs to ensure judicious utilization of deposits and maximization of profit (Makori, 2016). Effective credit risk management practices should be put in SACCOs as they play a key role in enhancing credit risk management which improves the performance of SACCOs (Kibui & Moronge, 2014).

Saving and Credit Cooperative Societies in Kenya are regulated by two laws, the Cooperative Societies Act and Sacco Societies Act, the former applies to the NDTs only. SACCOs in Kenya are equivalent to Credit Unions in jurisdictions such as the USA, Canada, UK, Australia, and Latin America or Co-operative banks in South Africa, India and part of continental Europe. They are registered under the Cooperative Societies Act but for DTs they are also registered by SACCO Societies Act to undertake the deposit-taking business; therefore, they accept deposit and offer withdrawal services similar to those offered by banking institutions. Since the introduction of prudential regulations for SACCOs in Kenya in the year 2010, there has been consistent steady growth. However, gradual adverse performance has been witnessed over the last few years, in terms of the total asset portfolio. Growth of total assets declined from 14.8% in the year 2016 to 12.4% in 2017 and 11.98% in 2018 and 5.52% in 2019. Core capital performance has also been declining over the past few years. The rate of growth dropped sharply from 31.7% in the year 2016 to 16.95% in 2017, 15.75% in 2018 and 6.49 % in the year 2019(SACCO Supervision Annual Report, 2019).

This study has identified a few local studies on the effect of credit risk management practices on financial performance. They include, Ngare (2008) who researched on the effect of credit risk management practices on the financial performance of Kenyan commercial banks. The study concluded that, a positive relationship exist between credit risk management and financial performance of commercial banks in Kenya, Wanjohi and Ombui (2013) conducted a study on risk management of insurance firms in Kenya versus their financial performance. It was established that insurance companies' performance can greatly be improved through prudent risk management. Gaitho (2010) researched on credit risk management practices by SACCOs in Nairobi and concluded that credit risk management impact positively on the operations of SACCOs. Fredrick (2014) conducted a study on the influence on liquidity risk on the financial performance of Kenyan banks. He concluded that liquidity risk management adversely affect performance of commercial banks.

Murang'a County is one of the 47 devolved units of Government established by the Constitution of Kenya, 2010 and one of the five counties in the central region in the republic of Kenya. The county covers a total area of 2,558 square kilometers of land and it borders Nyeri to the north, Kiambu to the south, Nyandarua to the west, Kirinyaga, Embu and Machakos counties to the west. According to 2019 Kenya Population and Housing Census, the county has a population of 1,056,640.00. Murang'a County is home to two of the best-performing SACCOs i.e. Unaitas and Mentors both of them have over 5 billion customers' deposits. Unaitas has a total asset of 12.8 billion while Mentors has 7.1 billion assets as at 31st December 2018. Growth in total assets

between the years 2016 and 2017 was at 10.23% and 28.61% for Unaitas SACCO and Mentor SACCO respectively. However, for the period between 2017 and 2018 the growth in net assets for the same two SACCOs in Murang'a County declined to 8.77% and 14.21%, which was more than 50% drop for Mentors SACCO (SASRA Supervisory Report 2018). The gradual adverse performance of SACCOs in Murang'a is in line with the overall decline in the performance of SACCOs for the entire country at large.

### ***Statement of the Problem***

Financial institutions are not free from the threat of credit risks due to the inherent challenges exposed to them in the process of credit creation. Therefore, putting in place proper credit risk management practices to achieve improved performance is important (Kimari, 2013). The overall performance of SACCOs in the country has been declining as indicated by decline of core capital performance and decline in the growth of total asset portfolio. There has also been continuous increase in the amount of non-performing loans for SACCOs in Kenya beyond the SASRA recommended industry average of less than 5% for the past five years. This shows that the quality of loans advanced by SACCOs has been declining. During the year 2016 non-performing loans stood at 5.22%, 2017 at 6.14%, 2018 at 6.30%, 2018 at 6.14% in 2019 and 9.12% in the year 2020. The increased amount of non-performing loans exposed SACCOs to more credit risks during the period. Total loans restructured by the SACCOs during the period amounted to KES 4.7 billion reflecting the challenge facing the SACCO societies in loan repayments (Kenya Financial Stability Report, 2020).

Gwenyi, (2016) established a subsistence of a converse relationship between credit risk and financial performance of SACCOs and all financial risks have a negative relationship with the financial performance of DTSS in Kenya. Studies by Nawaz and Munir (2012), Bizuayehu (2015), Afriyie and Akotey (2015), Ngare (2008), Gaitho (2010) concluded existence of a positive relationship between risk management and financial performance. However, studies by Yousfi (2012); Muriithi et al. (2016) on financial risk and financial performance revealed that credit risk has a negative and significant statistical impact on financial performance.

Over the past few years SACCOs have been experiencing gradual adverse financial performance in terms of the total asset portfolio and core capital performance. Growth of total assets declined from 14.8% in the year 2016 to 12.4% in 2017 and 11.98% in 2018 and 5.52% in 2019. Core capital performance has also been declining. The performance dropped sharply from 31.7% in the year 2016 to 16.95% in 2017, 15.75% in 2018 and 6.49 % in the year 2019. During the same period there was a gradual decline in the performance of SACCOs in Murang'a County as was the case in the entire country (Kenya Financial Stability Report, 2020).

The continuous increase in the amount of non-performing loans is an indication that there exist some challenges in the operation of SACCOs in the country. The declining financial performance as indicated by gradual decline in the growth of asset portfolio as well as deteriorating core capital performance is an indication of challenges being experienced in the SACCOs sector in the country. Little study has been carried out in Murang'a County on this particular subject. This study, therefore, sought to unravel the challenges being experienced in the operations of SACCOs that has led to increased exposure to credit risks, reconcile the indifference in findings from the previous studies on whether credit risk management practices have a positive or negative effect on financial performance, while also filling the gap identified in this geographical area of Murang'a County, Kenya.

### ***Objectives of the Study***

- i) To determine the effect of credit risk governance practices on the financial performance of SACCOs in Murang'a County.
- ii) To establish the effect of the credit appraisal practices on the financial performance of SACCOs in Murang'a County.
- iii) To evaluate the effect of the credit collection practices on the financial performance of SACCOs in Murang'a County.
- iv) To assess the effect of the credit monitoring practices on the financial performance of SACCOs in Murang'a County.

### ***Research Hypotheses***

This study tested the following null hypotheses

H<sub>0</sub>1: credit risk governance practices does not significantly influence financial performance of saving and credit cooperative societies.

H<sub>0</sub>2: Credit Appraisal Practices does not significantly influence financial performance of saving and credit cooperative societies In Murang'a County

H<sub>0</sub>3: credit collection practices does not significantly influence financial performance of saving and credit cooperative societies in Murang'a County

H<sub>0</sub>4: credit monitoring practices does not significantly influence financial performance of saving and credit cooperative societies in Murang'a County

## **II. Literature Review**

### ***Theoretical Framework***

In this study, the influence of independent factors on the dependent variable was explained by three theories. The theories include modern portfolio theory of investment, adverse selection theory and agency theory.

Modern Portfolio Theory was pioneered by Harry Markowitz in his paper "Portfolio Selection" published in 1952 by the Journal of Finance. According to this theory investors are most interested on the performance of a portfolio rather than a single asset. This is because portfolio performance can easily be diversified against risks. Therefore, a portfolio performance is more desirable compared to a single asset performance. The performance of a portfolio is measured based on statistical measures such as mean and standard deviation. This theory is based on assumptions such as investors are risk-averse that is an investor would prefer the less risky portfolio for a given level of return or the highest return for a given level of risk. Another assumption is that an investor prefers the returns and volatility of a portfolio as measured by mean and standard deviation; other factors such as charges are disregarded by the investor. From the assumptions, therefore, investors are interested in the efficient portfolio i.e. the portfolios which provide the greatest expected return at a given level of risk. Those are the portfolios that are tangent on the efficient frontier curve on a graph of expected returns versus the risks (Reilly and Brown, 2011). This theory seeks to address the credit risk monitoring practices variable and credit risk governance practices. The theory illustrates the importance of maximizing the returns of investments while reducing the risks. To instil confidence to the SACCO members, management should put in place prudent credit risk management practices to reduce the risk of default of the advanced credit to members thereby maximizing investors expected rate of return

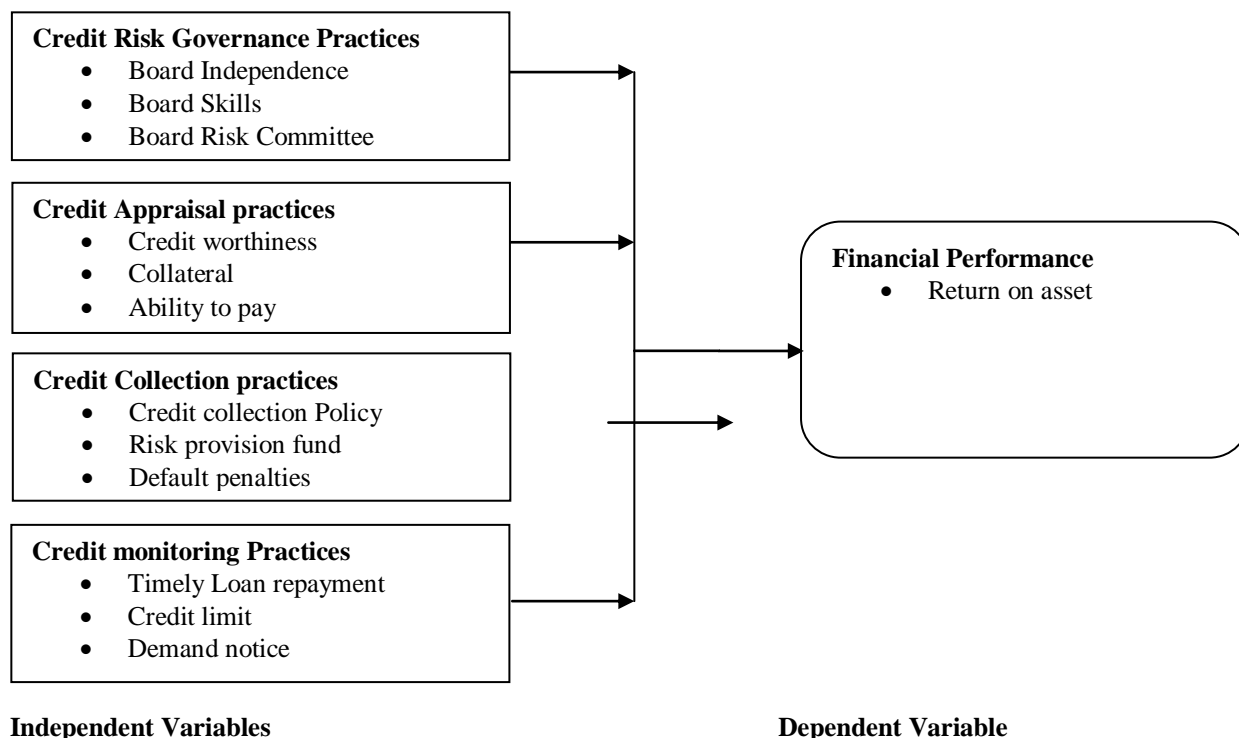
Adverse selection theory was advanced by Stiglitz and Weiss (1981). Adverse selection arises because of the existence of asymmetrical information in the market. This arises where one party either buyer or seller of a product has an information advantage over the other. The party with better information participates in a trade while the other party is exploited and this may result in adverse selection (Auronen, 2003). To reduce the information asymmetry can be achieved by the disadvantaged party obtaining more information about the other party. A trader can reduce the information asymmetry by screening their customers in order to understand them better. Uninformed investors can also demand a premium from their customers to cushion themselves from the effect of adverse selection (Stiglitz & Weiss, 2009). This theory seeks to address the credit appraisal practices variable. In the case of SACCOs, the customers (loan borrowers) normally have more information about themselves than Sacco's management. In order for the SACCOs management to shield themselves from the impact of the information asymmetry, they should strive to understand their customers better by screening their past credit history to predict their future behaviour. The information can be obtained from the credit reference bureaus. SACCOs can also reduce adverse selection by categorizing their loan products according to the level of risk each category is exposed e.g. high risky loans product should attract high interest while low risky products to be charged low interest (Onaolapo, 2007).

Agency theory attempts to solve problems that exist in principal and manager relationships otherwise known as Agency theory. A firm consists of arrangement where the owner of the entity's resources otherwise known as principals and those who have been tasked with the responsibility of being in charge of the entity's resources otherwise known as managers .The Principal therefore employees internal control systems professionals to check the operations of the agent and thus enhancing the sustainability of the relationship (Jensen and meckling, 1976).The theory is applicable to this study due to the numerous use of internal control as a key tool in mitigating agency problems and reduction of costs thus benefiting the principal (Carlton & Payne ,2003) Jensen and meckling (1976) further point out that there are communication challenges between the principal and the agent as to whether the agent is concerned enough to achieve the interests of the principal, This theory therefore prescribes the development of key structures within the organizations to enhance internal controls and mitigate errant behavior of the agents. According to this theory, the management of SACCOs are not the shareholder of the business, therefore they should ensure the interest of shareholders are taken care of by implementing the established credit risk governance practices on all loans advanced, doing proper credit appraisals on all loans applied, continuous monitoring of credit advanced to customers and timely credit collection of outstanding loans to ensure maximum return to the shareholders. The board should also strictly and independently monitor the implementation of the board decisions by the management of the SACCOs.

### ***Conceptual Review***

According to Ravitch and Riggan (2012), a conceptual framework is an analytical tool with several variations and contexts. It explains graphically or in narrative forms the main dimensions being studied or the

presumed relationship amongst the variables being studied. The independent variables are credit risk governance practices, credit appraisal practices, credit collection practices, credit monitoring practices. The dependent variable is the financial performance of SACCOs as shown in Figure 1.0.



**Figure 1.0: Conceptual Framework**

**Empirical Review**

Bridgeforce (2016) conducted a study on the comprehensive management of profitability and credit risk. The study concluded that: managing credit relationships that are based on all management of credit relationship which is based on all available and consistent customer information throughout the credit cycle increases the profitability of a business. Credit scores only focus on the information available in the credit report disregarding additional information that the lender may pay attention during the credit appraisal process (Brown & Reily, 2015). Alshatti (2015) did a study on credit risk management on the financial performance of Jordanian Commercial banks during the period from 2005-2013. The study concluded that credit risk management indicators have a significant influence on the financial performance of commercial banks. Li and Zou (2014) researched on the impact of credit risk management on the profitability of commercial banks in Europe. The research established that there exists a positive relationship between credit risk management and the profitability of commercial banks in Europe.

Nawaz and Munir (2012) researched on credit risk and performance of Nigerian banks. The study concluded that credit risk management has a positive influence on the performance of banks in Nigeria. Ogboi and Unuafe (2013) researched on the impact of credit risk management and capital adequacy on the financial performance of commercial banks in Nigeria. The study found out that credit risk management and capital adequacy impacted positively on the bank’s financial performance with the exception of loans and advances which was found to hurt banks’ profitability in the period under study. Tucker and Miles (2004) researched on the financial performance of microfinance institutions a comparison to the performance of regional commercial banks by geographic regions covering Africa, Asia, Eastern Europe, and Latin America. The study was conducted from 1999 to 2001 and looked at three series of data. The study concluded that microfinance institutions were self-sufficient and performed better than their counterparts in third world countries. Hakim and Neamie (2001) did a study on performance and credit risk in banking in Egypt and Lebanon. The study was conducted in the 1990s when the banking sectors were experiencing performance reforms. The study concluded that there exists a negative relationship between credit risk and performance of banks in the two countries. Kaaya and Pastory (2013) researched on credit risk and performance of commercial banks in Tanzania. The study concluded that there exists a negative relationship between credit risk indicators and bank performance.

Kariuki (2017) researched the effect of credit risk management practices on the performance of deposit-taking SACCOs in Kenya. The results of the study found out that: credit analysis, credit mitigation

measures and credit risk identification have a significant positive effect on financial performance. Gakure, et al., (2012) conducted a study on the effects of credit risk management techniques on the performance of unsecured bank loans employed by commercial banks in Kenya. The study concluded that credit approval guidelines and monitoring of borrowers affect the performance of unsecured bank loans. Hesbon, et al., (2016) conducted a study on the effects of Credit risk management practices on the financial performance of SACCOs in Kisii County. The study concluded that: credit policy, client appraisal, collateral substitutes, and credit monitoring were statistically significant in predicting the financial performance of SACCOs. Musimbi (2015) did a study on the effect of credit risk management practices on the financial performance of SACCOs in Kisumu County, Kenya. The study arrived at a conclusion that there is a positive relationship between effective credit risk management practices and the performance of SACCOs. Mwaniki and Wamiori (2018) researched on the effects of credit risk management practices on the financial performance of saving and credit co-operatives societies in Mombasa County, Kenya. The study concluded that there is a positive relationship between credit risk management practices and the financial performance of saving and credit co-operative societies. Kalui and Kiawa (2015) researched on the effects of credit risk management procedures on financial performance among microfinance institutions (MFIs) in Kenya. The study established that there exists a positive relationship between credit risk management procedure and performance of microfinance institutions in Kenya. George (2015) conducted research to establish the effects of credit risk management practices on the profitability of Deposit Taking SACCO's in Nairobi County. The study established that there exists a positive relationship between credit management practices and the profitability of deposit-taking SACCOs in Nairobi County. Charles (2016) did a research to establish the relationship between credit risk management practices and financial performance of deposit-taking SACCOs in Kenya. The study's conclusion was that: there exists a positive relationship between credit risk management practices and the financial performance of DTSSs in Kenya.

### **III. Material And Methods**

Descriptive research design was used because it provided a pictorial relationship between the variables and also helps to generalize the results of the study to the entire population. The target population of this study was 156 respondents comprising of three staff from each of the 52 registered SACCOs, Finance Manager, Credit Manager and Internal Audit Manager. A sample size of 93 respondents was used in this study out of a target population of 156 respondents. This study used a stratified random sampling technique because it is easily possible to identify respondents by dividing the population in to small groups of similar features known as strata. The main research instrument that was used in the study was the questionnaire. Questionnaire developed by the researcher based on the research objectives. The validity and reliability of instruments was tested by piloting. Pilot testing was carried out in 10% of the 31 Saccos in Muranga County. Nine questionnaires were piloted by issuing them to selected SACCOs employees from Muranga County. The three piloted Saccos did not form part of the 31 sampled Saccos. The researcher analyzed the data using both descriptive and inferential statistics. The data analysis was conducted using descriptive and inferential statistics. The descriptive statistics quantitatively describes features of a data sample, while inferential statistics makes inferences about the populations from which samples are drawn. The descriptive statistics that was used included the use of mean and standard deviation, while the inferential statistics involved use of correlation and multiple regression analysis. The regression equations were as follows:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

Where:- Y is financial performance;  $X_1$  is Credit risk governance practices;  $X_2$  is Credit appraisal practices;  $X_3$  is Credit collection practices and  $X_4$  is Credit monitoring practices.

### **IV. Result and Discussion**

#### ***Preliminaries Results***

The research had a total of 84 questionnaires which were distributed to the respondents. A total of 71 questionnaires were successfully completed amounting to 84.5 percent response rate. Rindfuss (2015) observed rate of response of 50 percent is enough, 60 percent is good, while more than 70 percent is very good. This implied that the rate of response in this study was excellent and sufficient for further analysis which was attributed to the effective data collection procedures employed by the researcher. Reliability of an instrument is the measure of the degree to which a research instrument yields consistent results or data after repeated trials. Cronbach's alpha coefficient of at least 0.70 and above depicts instrument reliability. From the values in table 1.0; credit risk governance practices  $\alpha = 0.971$ , credit appraisal practices  $\alpha = 0.947$ , credit collection practices  $\alpha = 0.957$ , credit monitoring practices  $\alpha = 0.826$ , confirms data reliability for the independent variables.

**Table 1: Results of Reliability test**

Variable	No. of items	Cronbach's Alpha
Credit risk governance practices	6	0.971
Credit appraisal practices	6	0.947
Credit collection practices	6	0.957
Credit monitoring practices	6	0.826

**Descriptive Statistics**

The descriptive statistics entailed mean, minimum, maximum, standard deviation, Skewness and kurtosis. The results are as shown in Table 2.0.

**Table 2.0: Time series Analysis for Financial Performance (ROA)**

Year	Min	Max	Mean	SD	Skewness	Kurtosis
2016	0.29	9.03	4.142062	2.537673	0.251833	1.956432
2017	0.25	19.17	3.990152	5.234278	4.015911	9.88416
2018	0.13	13.94	4.357586	3.302835	1.246893	4.072646
2019	0.09	10.93	3.815406	2.677555	0.811998	2.959841
2020	0.19	6.14	3.106099	1.713535	0.205762	1.901828
<b>Total</b>	<b>0.09</b>	<b>19.17</b>	<b>3.882261</b>	<b>3.293822</b>	<b>1.30647938</b>	<b>4.1549814</b>

Table 2.0 shows return on asset ranged from 0.09 to 19.17 with a mean of 3.88. The distribution had a standard deviation 3.29. Skewness of a value smaller than 2 and kurtosis value smaller than 6 should be considered normal (Tabor, 2011). From Table 2.0, return on asset has kurtosis less than 6 (4.154). This implies that are normally distributed and the data was adequate and met the assumption of linearity. This observation was also supported by Skewness values which were less than 2 (1.306).

**Inferential analysis**

Inferential analysis was done to identify the link between the variables of the research. The study carried out inferential analysis utilizing the correlation coefficient and regression analysis for Pearson's product moment. The analysis of correlation between dependent and independent variables was performed to identify where a significant relationship existed between these variables. The findings of the analysis are as shown below:

**Correlation Analysis**

The correlation coefficient (r) results are presented as shown in Table 3.0 using Pearson correlation analysis, which computes the direction (Positive/negative) and the strength (Ranges from -1 to +1) of the relationship between two continues or ratio/scale variables.

**Table 3.0: Overall Correlation Analysis Results**

	CRGP	CAP	CCP	CMP
<b>CRGP:</b> Credit Risk Governance Practices	Pearson Correlation Sig. (2-tailed) N	1  71		
<b>CAP:</b> Credit Appraisal Practices	Pearson Correlation Sig. (2-tailed) N	.447** .000 71	1  71	
<b>CCP:</b> Credit Collection Practices	Pearson Correlation Sig. (2-tailed) N	.603** .000 71	.619** .000 71	1  71
<b>CMP:</b> Credit Monitoring Practices	Pearson Correlation Sig. (2-tailed) N	.284* .016 71	.432** .000 71	.519** .000 71
Financial Performance	Pearson Correlation Sig. (2-tailed) N	.609** .000 71	.579** .000 71	.526** .000 71

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

From the correlation Table 3.0, Credit Risk Governance Practices is positively correlated to financial performance of saving and credit cooperative societies in Murang'a County, the coefficient is 0.609 (p value < 0.000) this is significant at 99% confidence level. Thus increase in Credit Risk Governance Practices would make financial performance of saving and credit cooperative societies in Murang'a County to increase in the same direction. The findings are in agreement with Wambui and Wamioro (2018) who indicated that Governance structures that would ensure that the laid down credit risk policies are strictly adhered to, is lacking in majority of SACCOs. The policy framework forms a key part of a company's overall risk management strategy. The board and the management of the Sacco's formulate regulatory framework upon which all staff adhere to.

Similarly, the correlation coefficient for Credit Appraisal Practices was 0.579, P=0.000, suggesting that there is significant positive relationship between Credit Appraisal Practices and financial performance of saving and credit cooperative societies in Murang'a County. Increase in Credit Appraisal Practices would results to increase in financial performance of saving and credit cooperative societies in Murang'a County. Therefore, it can be concluded that credit appraisal practices were statistically significant in explaining the financial performance of selected registered SACCOs in Murang'a County. This finding are in agreement with Cheptum (2019) indicate that the credit appraisal practices have a significant positive effect on the financial performance of the manufacturing firms (p<0.05). This can be attributed to the fact that SACCO management has the ability to control and manage credit through their experienced and skilled credit managers. In conclusion, credit appraisal practices positively and significantly affected the financial performance of the SACCOs.

Further, there is significant positive relationship between credit collection practices and financial performance of saving and credit cooperative societies in Murang'a County as indicated by 0.526, p=0.000. This implies that increase in Credit Collection Practices would results to increase in financial performance of saving and credit cooperative societies in Murang'a County. The results are in agreement with Hesborn, Onditi and Nyagol (2016) who found that credit collection practices are statistically significant in explaining financial performance of the MFIs studied. The results is further supported by Katula and Kiriinya (2018) who established statistical relationship between independent variables credit collection, and financial performance of deposit-taking Savings and Credit Co-operative Societies in Embu County, Kenya. The study concludes that unless SACCO's embrace models of minimizing financial risks such as loan appraisal, achieving financial performance will be an uphill task. However, Mwangi (2016) found a positive insignificant relationship between credit collection and financial performance of commercial banks.

Further, there is significant positive relationship between Credit monitoring and financial performance of saving and credit cooperative societies in Murang'a County as indicated by .520, p=0.000. This implies that increase in Credit monitoring practices would results to increase in financial performance of saving and credit cooperative societies in Murang'a County. The results are in agreement with Kimari (2013) who revealed a positive relationship linking credit risk monitoring and credit recovery which were the independent variables to financial performance of deposit-taking SACCOs in Kenya. Further, Mwangi (2016) found a significant positive relationship between credit monitoring and the financial performance of commercial banks. The study found a positive insignificant relationship between credit risk appraisal and financial performance of commercial banks.

### **Multiple Regression Analysis**

Multiple regression analysis was computed to assess the multivariate influence of the study's independent variables (credit risk governance practices, credit collection practices, credit monitoring practices and credit appraisal practices) on the dependent variable financial performance of saving and credit cooperative societies in Murang'a County). This was after the compulsory assumptions of multiple regression analyses were checked and met. The results from multiple regression analysis are shown in Table 4.0.

**Table 4.0: Multiple Regression Model Summary**

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.755 <sup>a</sup>	.570	.544	.5922	.570	21.859	4	66	.000
ANOVA <sup>b</sup>									
Model	Sum of Squares		Df	Mean Square	F	Sig.			
1	Regression	30.665	4	7.666	21.859	.000 <sup>b</sup>			
	Residual	23.147	66	.351					
	Total	53.812	70						
Model	Unstandardized Coefficients			Standardized Coefficients		T	Sig.		
	B			Beta					
1	(Constant)	-1.199	.495			-2.422	.018		



Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.755 <sup>a</sup>	.570	.544	.5922	.570	21.859	4	66	.000
ANOVA <sup>b</sup>									
Model		Sum of Squares		Df	Mean Square	F	Sig.		
1	Regression	30.665		4	7.666	21.859	.000 <sup>b</sup>		
	Residual	23.147		66	.351				
	Total	53.812		70					
	Credit Risk Governance		.566		.130	.443	4.338	.000	
	Credit Appraisal Practices		.401		.130	.318	3.085	.003	
	Credit Collection Practices		.336		.132	.312	2.545	.035	
	Credit Monitoring Practices		.406		.116	.336	3.497	.001	

a. Dependent Variable: financial performance of saving and credit cooperative societies in Murang'a County

From the findings presented in Table 3.0, we look at the model results and scan down through the unstandardized coefficients B column. All credit risk management practices variables had significant influence on the financial performance of saving and credit cooperative societies in Murang'a County. If credit risk management practices are held at zero or it is absent, the financial performance of saving and credit cooperative societies in Murang'a County would be -1.199,  $p=0.018$  though be negative but significant.

Multiple regression coefficients results indicate that credit risk governance practices significantly determined financial performance of saving and credit cooperative societies in Murang'a County ( $\beta = 0.566$  at  $p < 0.05$ ). The results indicate that a unit improvement in credit risk governance practices will lead to 0.566 units improvement in financial performance of saving and credit cooperative societies in Murang'a County when other factors in the model are controlled. The results are supported by the work of Wambui and Wamioro (2018) on credit risk governance, the study revealed that it affects profitability of SACCOs in Mombasa. The study results showed that credit compliance and control mechanisms as a major credit risk management affects financial performance of SACCOs in Mombasa County. Wachira (2015) surveyed the influence of corporate management on Kenya's economic performance of savings and credit cooperative partnerships and found that the performance of the SACCO was influenced by monetary oversight by the Board. However, Essendi Research (2013) has identified effective credit features as a guideline for the management and governance of SACCO's lending portfolio to ensure the distribution and maintenance of the funds fairly. The study concludes that loan policies are drawn up by staff and managers with little involvement.

Multiple regression coefficient results indicate that credit appraisal practices significantly determined financial performance of saving and credit cooperative societies in Murang'a County ( $\beta = 0.401$  at  $p < 0.05$ ). The results indicate that a unit improvement in credit appraisal practices will lead to 0.401 units improvement in financial performance of saving and credit cooperative societies in Murang'a County when other factors in the model are controlled. These findings compare favorably with Kagoyire and Shukla (2016) who found out that credit appraisal had a positive effect on financial performance of Equity bank. Mabonga and Kimani (2017) found that credit appraisal had effect on financial performance of MFIs in Kenya. Omar, Muturi and Samantar (2018) found out that client appraisal and credit risk control play a major role for profitability of the companies, it also realized that companies formulated and use collection policies which also has positive relationship with profitability of the telecommunication companies in Garowe, Somalia. This study finding concurs with the finding of Kimotho and Gekara (2016) whose study revealed that there was a positive effect between credit appraisal analysis and financial performance of commercial banks in Kenya. He added that commercial banks used credit appraisal analysis to a great extent.

Multiple regression coefficients results indicate that credit collection practices has significantly determined financial performance of saving and credit cooperative societies in Murang'a County ( $\beta = 0.336$  at  $p < 0.05$ ). The results indicate that a unit improvement in credit collection practices will lead to 0.336 units improvement in financial performance of saving and credit cooperative societies in Murang'a County when other factors in the model are controlled. The results are supported by Makori (2015) who carried out an impact survey on the profitability of SACCO deposits in Nairobi County on loan risk management procedures. The findings of the regression reveal a positive influence on the profitability of DTS in Nairobi on credit collection practices. Further, Chege, Olweny and Opuodho (2018) also found out that credit collection practices have a positive effect on the financial performance of commercial banks in Kenya. This study concludes that credit insurance influences the financial performance of commercial banks in Kenya most followed by credit collection practices and credit risk analysis had the least influence on the financial performance of commercial banks in Kenya. Similar results were obtained by Nduta (2013) on the effect of credit risk management on the financial performance of microfinance institutions in Kenya. The findings revealed that credit such as sending

reminder had significant positive effect on the financial performance of MFIs. The MFIs were found to send a polite friendly reminder to those customers who are just a few days late with their payment and discuss with customers about payment.

Finally, multiple regression coefficients results indicate that credit monitoring practices has significantly determined financial performance of saving and credit cooperative societies in Murang'a County ( $\beta = 0.406$  at  $p < 0.05$ ). The results indicate that a unit improvement in credit monitoring practices will lead to 0.406 units improvement in financial performance of saving and credit cooperative societies in Murang'a County when other factors in the model are controlled. The results are in agreement with Biwott, Ombui and Kagiri (2015) who indicated credit monitoring significantly influenced financial performance in the society. It was evident that if the credit risk management was sound then, the performance level would be satisfactory. Further, the results are in agreement with Kalu, Shieler and Amu (2018) who indicated that credit monitoring has moderate significant positive relationship on financial performance of MDIs. However, Owusu (2008) discovered that the evaluation of credit monitoring does not properly evaluate the credit risks inherent in the adoption of a loan choice.

## **V. Conclusion and Recommendation**

The broad objective of the study was to investigate the effect of credit risk management practices on financial performance of SACCOs in Murang'a County, Kenya. The study indicated that a credit risk management practices significantly influenced the financial performance of SACCOs in Murang'a County, Kenya when the one factor of credit risk management was considered. It was evident that if the credit risk management practices were sound then, the financial performance would be satisfactory. On the other hand, if the credit risk management is poor, the financial performance will be low.

The study concluded that credit risk governance Practices has a direct and significant effect on financial performance SACCOs in Murang'a County, Kenya. This practice enhances financial performance by reducing loan losses. This is achieved by the board which is independent of the SACCO management as well as there is a board risk committee which considers credit risks policy issues from management. The study concluded that credit appraisal as credit risk management practices are significant determinant of financial performance of SACCOs in Murang'a County, Kenya. The study established that credit department always confirms the capacity of the borrower in repaying back loan during credit review and also checks the consistency of the borrower bank statements and any anomalies explained to eliminate chances of influencing the amount of loan to be authorized through sudden huge cash deposits. The credit department always confirmed collateral of the borrower is free of encumbrances during credit review which enhances financial performance.

The study concluded that credit collection practices significantly determine the financial performance of SACCOs in Murang'a County, Kenya. Enhanced credit collection policies such as existence of a written loan collection policy which stipulates regularly reviewing borrowers' files, strict debt collection deadlines, visiting debtors to remind them to pay and frequently sending reminder to debtors influenced financial performance. The study concluded that credit monitoring practices significantly determine the financial performance of SACCOs in Murang'a County, Kenya. To improve financial performance of the SACCOs through monitoring, the sampled Saccos ensured that loan not paid on time is flagged for close monitoring to ensure it is paid without further deterioration as well as demand notice is issued to credit borrowers when the loan fall due without payment being made.

Based on the findings of this study the following recommendations were proposed in relation to each study objective. The study recommended that participants with a strong knowledge of credit leadership should make up the SACCO's board of Directors especially in regards to credit risk management practices. This would enable them to come up with progressive credit risk management policies at organizational level. The study also recommended that it is imperative that SACCOs adopt appropriate credit appraisal practices that enhance identification of suitable clients and borrowers to minimize on loan defaulters. Such practices may include a combination of individual and businesses characteristics, financial and physical characteristics, credit scoring models, utilization of the credit reference bureau and client credit risk analysis among. This may encourage repayment of credit within stipulated timeframe. The study further recommends that SACCOs should enhance their credit collection practices by adapting a more stringent policy to a lenient policy for effective debt recovery and thus reduce their non-performing loans. The study also recommends SACCOs to soften their strict credit collection practices to retain their loyal clients, which in turn will increase their performance in the long run. Finally, the study recommends that informal relationship between SACCOs and borrowers need to be encouraged since it helps in monitoring and early detection of problems that may arise in non-repayment of loans that finally lead to credit risk. This study recommends for periodic thorough scrutiny and amendment of credit monitoring policies so as to ensure that current loopholes are addressed so as to reduce their non-performing loans.

## References

- [1]. Alshatti, A. S. (2015). The Effect of Credit Risk Management on Financial Performance of the Jordanian Commercial Banks. *Investment Management and Financial Innovations*, 12(1), 338–345
- [2]. Auronen, L. (2003). Asymmetric Information: Theory and Applications. Paper presented in the Seminar of Strategy and International Business at Helsinki University of Technology, May 21st 2003.
- [3]. Boahene, S.H., Dasah, J. & Agyei, S.K. (2012). Credit Risk and Profitability of Selected Banks in Ghana. *Research Journal of Finance and Accounting*, 3 (7), pp. 6-15. Available at: [file:///C:/Users/alial\\_000/Downloads/2628-4635-1-PB.pdf](file:///C:/Users/alial_000/Downloads/2628-4635-1-PB.pdf)
- [4]. Bourakba, C. & Zerargui, H. (2015). The Relationship between Credit Risk and Corporate Governance in Islamic Banking: An Empirical Study. *Issues in Business Management and Economics Vol.3 (4)*, pp. 67-73, April 2015 Available online at <http://www.journalissues.org/IBME/>
- [5]. Bowman, E.H. (1980). A Risk/Return Paradox for Strategic Management. *Sloan Management Review*, Spring, 17–31
- [6]. Bridgeforce, K. (2016). Comprehensive Management of Profitability and Credit Risk, Vision and Strategy Document. Washington DC: John Wiley & Sons Limited.
- [7]. Brown, K. C., & Reily, F. K. (2011). *Investment Analysis & Portfolio Management*. South-Western: John Wiley & Sons Ltd.
- [8]. Brown, K. C., & Reily, F. K. (2015). *Investment Analysis & Portfolio Management*. South-Western: John Wiley & Sons Ltd.
- [9]. Bwana, K. M., & Mwakujonga, J. (2013). Issues in SACCO development in Kenya and Tanzania: The historical and development perspectives. *The International Institute for Science, Technology and Education Journal*, 3(5), 14-22.
- [10]. Charles, M.M. (2016). Relationship Between Credit Risk Management Practices and Performance of Deposit Taking Saccos in Kenya. (Unpublished)
- [11]. Cheruiyot, T. K., Kimeli, C. M., & Ogendo, S. M. (2017). Effect of Savings and Credit Co-operatives Societies Strategies on Member's Saving Mobilization in Nairobi Kenya. *International Journal of Business & Commerce*, 1 (11) 40 -63.
- [12]. Chiappori, P. A.; Salanie, B. (2000). "Testing for Asymmetric Information in Insurance Markets". *Journal of Political Economy*.
- [13]. Creswel, W. (2014). *Research Design: Qualitative, Quantitative and mixed method approaches (4<sup>th</sup> ed.)*
- [14]. Dao, B. & Pham, H. (2015). Corporate Governance and Bank Credit Risk: Default Probability, Distance to Default
- [15]. Develtere, P., Pollet, I. & Wanyama, F., eds. (2008). *Cooperating out of Poverty: The Renaissance of the African Cooperative Movement*, ILO, Geneva.
- [16]. Eisenhardt, K.M. (1989). "Agency Theory: An Assessment and Review", *The Academy of Management Review*, 14 (1): 57–74
- [17]. Fredrick, M. (2014) The Effect of Liquidity Risk Management on Financial Management of Banks in Kenya. (Unpublished paper, University of Nairobi)
- [18]. Friends consult Ltd, (2013). 'SACCOs and MFIs'.
- [19]. Gaiho, M. (2010). Credit Risk management practices by Saccos in Nairobi. Unpublished MBA Project. University of Nairobi.
- [20]. Gakure, R.W., Ngugi, J.K., Ndwiga, P.M. and Waitthaka, S.M. (2012). Effect of Credit Risk Management Techniques on the Performance of Unsecured Bank Loans Employed Commercial Banks in Kenya. *International Journal of Business and Social Research*, 2 (4), pp. 221-236. Available at: <http://thejournalofbusiness.org>.
- [21]. Gisemba, P. N. (2015). The Relationship between Credit Risk Management Practices and Financial Performance of SACCOs in Kenya. Unpublished MBA, University of Nairobi, Retrieved from <http://www.uonbi.ac.ke>.
- [22]. Gwenyi, M.O. (2018). Influence of financial risk on financial performance of deposit taking savings and credit co-operative societies in Kenya.
- [23]. Hakim, S. and Neami, S. (2001). Performance and Credit Risk in Banking: a comparative study of Egypt and Lebanon, ERF Working Paper Series, Working Paper.
- [24]. Hesborn, M., Onditi, A, Nyago, M. (2016). Effects of Credit risks management practices on the financial performance of saccos in Kisii County. *International Journal of Economics, Commerce and Management*, United Kingdom Vol. IV, Issue 11, November 2016.
- [25]. Jarvis, R., Kitching, J., Curran, J. & Lightfoot, G. (1996), "The Financial Management of Small Firms: An Alternative Perspective". Research Report No. 49, Association of Chartered Certified Accountants, London.
- [26]. Jobson, J.D. & Korkie, B. (1981). Putting Markowitz theory to work. *Journal of Portfolio Management* 7:70–74.
- [27]. Kaaya, I. and Pastory, D. (2013). Credit Risk and Commercial Banks Performance in Tanzania: a Panel Data Analysis. *Research Journal of Finance and Accounting*, 4 (16), pp. 55-63. Available at: [www.iiste.org](http://www.iiste.org).
- [28]. Kalui, F. M & Kiawa, E (2015). Effects of credit risk management procedures on financial performance among microfinance institutions (MFIs) in Kenya: a case of MFIS in Nairobi County. *International Journal of Humanities Social Sciences and Education (IJHSSE)*
- [29]. Kariuki, N.W. (2017). Effect of Credit Risk Management Practices on Financial Performance of Deposit Taking Savings. *IOSR Journal of Business and Management (IOSR-JBM)* e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 19, Issue 4. Ver. II (Apr. 2017), PP 63-69 [www.iosrjournals.org](http://www.iosrjournals.org)
- [30]. Lakew, T.B, Meniga M. & Meniga, A. (2014). Performance of Multipurpose co-operative Union of Tigray Region, Ethiopia. *International Journal of Communication and Cooperative studies Vol.I, No.1 pp. 15-26, September 2014.*
- [31]. Kimari, F.N. (2013). Effect of Credit Risk Management on Financial Performance of Deposit Taking Savings and Credit Cooperative Societies in Kenya. Unpublished MBA thesis, University of Nairobi, Kenya.
- [32]. Li, F., & Zou, Y. (2014). The Impact of Credit Risk Management on Profitability of Commercial Banks: A Study of Europe. Umea School of Business and Economics. Unpublished PhD Thesis.
- [33]. Maiti, S.N. (2015). Effect of Credit Policy on Financial Performance of DTS in Nairobi County, Kenya and recommended that regulated saccos and other institutions such as microfinance should adopt credit standard as credit policy.
- [34]. Makori, O.G. (2016). Effects of Credit Risks Management Practices on Profitability of Deposit Taking Saccos in Nairobi County. Unpublished Management University of Africa.
- [35]. Makori, O.G. & Sile, I (2017). Effect of Credit Appraisal Practices and Credit monitoring on Profitability of Deposit Taking Sacco's in Nairobi County. *Stratford Peer Reviewed Journals and Book Publishing Journal of Entrepreneurship and Project Management Volume 1|Issue 1|Page 46- 60|December|2017*
- [36]. Markowitz, M (1952), 'Portfolio Selection'. *Journal of Finance*. Vol 7 no1 : 77–91
- [37]. Metcalf, R. W., & Titard, P. L. (2006). *Principles of Accounting*. Philadelphia: Saunders W.B.
- [38]. Morgenson G. (2012). A guide to better behaviour in business. *New York Times*, December 12, 2012.
- [39]. Mugenda, O. M., & Mugenda, A. G. (2008). *Research Methods: Quantitative and Qualitative Approaches*. Acts Press, Nairobi-Kenya.
- [40]. Murugu, H.M. (2010). The Effects of Credit Risk Management Practices on Performance of SACCOs in Kenya. A Case of Nairobi Based SACCOs. Kenyatta University Repository.

- [41]. Musimbi, E.W. (2015). The Effect of Credit Risk Management Practices on Financial Performance of Credit and Co-operative Societies in Kisumu County, Kenya. University of Nairobi Repository.
- [42]. Mwaniki, E.W. & Wamiori, G. (2018). Effects of Credit Risk Management Practices on Financial Performance of Saving and Credit Co-operative Societies in Mombasa County, Kenya. *International Journal of Academic and Research IJARKE Business and Management Journal* August 2018, Vol.1.
- [43]. Nawaz, M. and Munir, S. (2012). Credit risk and the performance of Nigerian Banks. *Interdisciplinary Journal of Contemporary Research in*, 4 (7). Available at: <http://journal-archieves25.webs.com>.
- [44]. Ngare, E.M (2008). A Survey of Credit Risk Management Practices by Commercial Banks in Kenya.
- [45]. Njanike, K. (2009). The Impact of Effective Credit Risk Management on Bank Survival. *Journal of Financial Regulation and Compliance*, Working paper, Bindura University, Zimbabwe. Available at: <https://ideas.repec.org>.
- [46]. Nyamwange, G.P. (2010). The Relationship Between Credit Risk Management Practices and Financial Performance of Saccos in Kenya. University of Nairobi Repository.
- [47]. Odhiambo, O. (2012). Corporate Governance Problems of Savings, Credit and Cooperative. *International Journal of Academic Research in Business and Social Sciences* November 2012, Vol. 2, No. 11 ISSN: 2222-6990
- [48]. Ogboi, C. H. and Unuafé, O.K. (2013). Impact of Credit Risk Management and Capital Adequacy on the Financial Performance of Commercial Banks in Nigeria. *Journal of Emerging Issues in Economics, Finance and Banking*. Available: <http://www.globalbizresearch.com>.
- [49]. Pepper, A., Gore, J. (2012). Behavioral Agency Theory New Foundations for Theorizing about Executive Compensation. *Journal of Management* 41(4), 1045–1068.  
Google Scholar | SAGE Journals | ISI
- [50]. Poudel, R.P.H (2012). The Impact of Credit Risk Management on Performance of Commercial Banks in Nepal. *International Journal of Arts and Commerce* .Vol 1. No. 5 October 2012
- [51]. Robson, C. (2015). *Real World Research: A Resource for Social Scientists and Practitioner Researchers* (2nd ed.) Malden: Blackwell publishing.
- [52]. Sambasivam, Y., & Biruk, A. (2013) Financial Performance analysis of GOHE Co-Operatives Savings and Credit Union in Bure Woreda, Ethiopia. *Journal of Economics and Business Studies*. 02(06). Retrieved from [www.theinternationaljournal.org](http://www.theinternationaljournal.org)
- [53]. SASRA. (2017). SACCO Supervision Annual Report 2017. Deposit Taking SACCOs. Retrieved from <http://www.sasra.go.ke>.
- [54]. SASRA. (2018). SACCOs Supervision Annual Report 2018. Deposit Taking SACCOs. Retrieved from <http://www.sasra.go.ke>.
- [55]. SASRA. (2019). SACCOs Supervision Annual Report 2018. Deposit Taking SACCOs. Retrieved from <http://www.sasra.go.ke>.
- [56]. Tesfamariam, K. Tesfay H. and Tesfay, A. (2013), 'Relative Efficiency of Rural Saving and Credit Cooperatives'. An Application of data envelopment Analysis. *International Journal of Cooperative Studies* Vol. 2, No. 1, 16-25.
- [57]. Tucker, M., Miles, G. (2004). Financial performance of microfinance institutions: a comparison to performance of regional commercial banks by geographic regions. *Journal of Microfinance/ESR Review*, 6(1), pp.41-54.
- [58]. Tuladhar, R. (2017). Impact of Credit risk on Profitability of Nepalese Commercial Banks. University of Technology.
- [59]. Wanjohi, J.N. & Ombui, K. (2013). Effects of Risk Management Practices on the Performance of Insurance Firms in Kenya: A Case of AIG Insurance Company Ltd. *International Journal of Science and Research (IJSR)*, 2319-7064.
- [60]. Wanyama, F. O. (2009). *Cooperative for Africa Development: Lessons from Experience*. School of Development and Strategic Studies, Maseno University.
- [61]. Xia, B.S. & Gong, P. (2014). Review of Business Intelligence Through Data Analysis. *Benchmarking: An International Journal*. 21,(2014), 300– 311
- [62]. Yousfi, I. (2012). Risk Management Practices and Financial Performance in Jordan: Empirical Evidence from Islamic Banks. *International Conference on Islamic Economics and Finance*.
- [63]. Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2011). *Business research methods*. 8th Edition. Mason Ohio South-Western.

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