



## Customer Loan Repayment Record and Financial Performance of Commercial Banks in Kenya

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**ABSTRACT:** Credit rating information has a significant effect on the performance of commercial banks. This information reveals the credit worthiness of prospective borrowers and enables banks to estimate the credit risks that they are exposed to. Commercial banks in Kenya are faced with the inherent problem of loan defaulting. The Kenyan economy is grappling with the problem of limited access to credit especially low resource citizens. The purpose of this study was to investigate customer loan repayment record and financial performance of commercial banks in Kenya. The specific objectives were to investigate influence of customer loan repayment record on financial performance, and to determine the influence of Central Bank of Kenya policies on credit rating as an intervening variable on financial performance of commercial banks in Kenya. The researcher adopted a descriptive study. The study population comprised of 43 Kenyan commercial banks. The target population comprised of 104 employees from credit and finance departments of commercial banks located in Busia County. The researcher used purposive sampling to identify bank employees in this case credit and finance department and thereafter simple random sampling was used to select 83 respondents. Questionnaires assessing various issues were given to 83 bank employees in Busia County. Data was entered in Ms Excel and analyzed using SPSS version 21. Quantitative data was analyzed using descriptive and inferential statistics. Descriptive analysis summarized data in form of central tendency as well as dispersion and inferential analysis was used to test hypothesis at a significance level of 0.05. Descriptive analysis included; frequencies, Mean, Standard deviation, maximum, minimum and percentage while inferential analysis involved correlation analysis and multiple linear regression analysis. It was presented in tables, graphs, regression model, variables compared and conclusions drawn. Results show that the relationship between customer loan repayment record, existing loan balance, previous credit period and financial performance of commercial banks was found to be linear, positive and significant. Therefore, credit rating information null hypotheses were rejected as credit rating information influence financial performance of commercial banks in Kenya. Central Bank of Kenya Credit rating policies were found to have significant moderating influence on the relationship between customer loan repayment record and financial performance. Therefore, the study recommended that credit rating information should entail on-time repayment of loan and late repayment information with emphasis on why and how so as to reflect their default characteristics. CBK should strengthen existing credit rating policies that would enhance performance of commercial banks. Such policies include using various models during credit rating information and sharing of information across various lenders in the market.

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### I. INTRODUCTION

#### 1.1 Background of the Study

Credit rating refers to a valuation of debtors' or entities' capacities to meet their financial obligations as and when they fall due. Credit worthiness is the term used to describe the ability to fulfill such financial commitments in time (Spuchl'áková, Valašková&Adamko., 2015). There are different types of credit ratings and they can be grouped into three main categories namely; International credit ratings. This summarizes an entity's overall credit worthiness, its ability and willingness to meet their financial obligations as they fall due. They are comparable across international borders and are mainly for governments, banks, corporates and other financial institutions. Issue credit ratings. These are an opinion of an entity's ability and willingness to honor its financial obligations with respect to a specific bond or other debt instrument. National ratings: They measure the credit worthiness of issuers or issues relative to all other issuers or issues within the same country (De Haan&Amtenbrink, 2011).

Lending institutions such as banks utilize credit ratings to evaluate the credit worthiness of their customers subsequently placing them in a better position to estimate their credit risks. For instance, a debtor who after assessment has a high credit score has a lower probability of defaulting in payment compared to the one with a lower credit score. Using credit rating therefore helps determine the likelihood of a borrower paying back the amount that he or she has borrowed. When all the debtors have been evaluated, credit risk of the bank can be determined laying the basis for planning, policy formulation and improvement of the financial performance of the institution (Oreski, Oreski&Oreski, 2012).

Jappelli and Pagano (2016) revealed in Italy that exchange of knowledge on the characteristics and debt of creditors can have a major impact on activity in the credit markets. Firstly, it increases banks' perception of applicant features and makes a more detailed prediction of their probabilities for repayment. Secondly, the knowledge rent which banking companies would otherwise be able to draw from their clients is reduced. Third, as a punitive device for the creditor. It also reduces the incentive of borrowers to become over debt by drawing loans from several banks simultaneously without any realization. In the United Kingdom, Adams, Burton and Hardwick (2013) found that performance of financial institutions is influenced by their credit rating and credit rating information for their borrowers. They pointed out that examination of corporate borrowers' ability to re-invest and generate new business and control expenses effectively increase revenue of financial institution. This resulted to increase in profitability and capital adequacy.

In Pakistan, Babar, Zeb and Lions(2011), credit rating agencies had a very important effect on the functioning of financial markets, with their ratings being used as an integral part of informed investment and financing decisions by investors, creditors, issuers and governments. The study showed that knowledge sharing, risk management and financial results have positive associations. This study shows that the Bank's risk management is certainly supportable with its highly informative structure and IS.Ali, Butt, Butt, Shah and Sulehri (2019) revealed that in Bangladesh to investigatedthe relationship of credit-sharing information to funding costs among the top ten of Pakistan's "AA ranking" banks as trade banks is also an important part of every country's economy. The results of the research show that credit information exchange, operating efficiency and funding cost are negatively and significantly related.

A number of practices should be taken up in order to ensure high credit rating for the benefit of both the borrower and the lender. For example, loan payments should be made on time and with the correct amount, borrowers should adhere to their credit limits with respect to their financial positions, lenders should advise borrowers accordingly on the type of credit and the effects thereof, among others. The benefit of sharing borrowers' information either bad or good is due to the reason that a better informed borrower can be in a position to negotiate the cost of credit based on their track record. The country is going through a period of economic recovery and banks are left with the option of lending on selective basis. (Business Daily, January 2015)

## **1.2 Statement of the Problem**

The amount of non-performing loans in financial institutions in Kenya is steadily rising (CBK, 2016). The data from CBK's 2016 annual report indicates that the amount of unsuccessful loans has risen in the last few years. Almost all banks have a strong increase in the amount of non-performing loans in their accounts, through the use of credit management techniques responsible for handling loans in relation to lending, such as credit comparison bureaus. If the non-performing loans are not regulated, they have the ability to erode the asset book and ultimately affect banks' income and results (Onuko, Muganda&Musiega, 2015).

Credit risk is among the most costly risks that financial institutions are exposed to as it can render the institutions insolvent (Gatuhu, 2013). Furthermore, loans are one of the largest contributors to credit risk. On this note therefore, this challenge can be overcome through developing a culture of monitoring the trend of borrowers and more so getting a way to measure the credit risk of borrowers. Credit rating information thus comes in handy in order to help banks to establish the credit worthiness of their customers thereby minimize non-performing loans. Credit rating information is also very important as lenders argue that borrowers who appear to have high credit scores end up benefiting from reduced interest rates and acquiring waivers on other set lending conditions including collateral requirements (Vig, 2013).

In Kenya, studies have indicated mixed and inconclusive outcome on the relationship between credit rating information and financial performance of commercial banks (Chemitei, 2016; Owino, 2015; Trivelli et al., 2009; Ahmad, 2013). Owino (2015) showed a positive connection between credit rating actions and loan book performance. Ahmad (2013) found out there was negative and insignificant association between credit rating information performing loans in Pakistan. The present study therefore aimed at exploring and analyzing the effect of credit rating information on Kenyan banks' financial performance.

### **1.3.1 Specific Objectives**

- i. To investigate influence of customer loan repayment record on financial performance of commercial banks in Kenya.
- ii. To determine the influence of Central Bank of Kenya policies on credit rating as an intervening variable on financial performance of commercial banks in Kenya.

### **1.4 Research Hypotheses**

- i.  $H_{01}$ : Customer loan repayment record has no significant influence on financial performance of commercial banks in Kenya.
- ii.  $H_{04}$ : Central Bank of Kenya credit rating policies has no significant intervening influence on financial performance of commercial banks in Kenya

## **II. LITERATURE REVIEW**

### **2.0 Introduction**

#### **2.1.1 Adverse Selection Theory**

Stiglitz and Weiss in 1981 was responsible for the principle of the negative selection in credit markets (Tonui, 2017). The Pagano and Jappelli reports (1993) that information sharing decreases the range of credit applicant banks by enhancing bank information. Every bank has private information about local credit applicants in their mode of doing business, but does not have information about foreign applicants. As banks exchange credit details, it is possible to determine the worth of international credit candidates, and they can advance them to local customers as cautiously as possible. By reducing the asymmetry of information between creditors and debtors, credits may be expanded to benign lenders that had formerly been excluded, resulting in increased aggregate loans. Information exchange in this model has a vague effect on the aggregate ending. When banks share credit details about the types of borrowers, the increase in credit for good credit borrowers does not compensate for a potential decrease in credit for risky types.

The issue of adverse selection shows that all borrowers are charged standard interest rates, which reflect their cumulative experience, when lenders can not differentiate between good and wrong borrowers. This rate would drive some good borrowers from the borrowing market if it is higher than deserving borrowers deserve, which in turn causes the banks to charge the other borrower even higher rates. The lender can differentiate poor lenders from good borrowers on the market through the exchange of the credit details. Improved access to information helps lenders more reliably assess their risk to the borrower and set loan conditions. Good lenders with a low risk would get better prices, raise credit demand and less risky borrowers out of the market due to the failure of lenders to give these lenders accommodating rates (Barronand Staten, 2008).

Padilla and Pagano (2000) illustrate that borrowers are encouraged to apply more resources in ventures if banks share credit details on defaults. The inability to pay is in both models a sign of poor quality for external banks and imposes a higher or no interest rate penalty and a high risk of default. In addition, exchanging information between banks can reduce rent information, as Padilla and Pagano (1997) showed in the sense of a two-period pattern, when banks have private information about their borrowers that can be extracted from their customers in credit relations. This knowledge advantage gives banks some market control over consumers and causes a halt: in expectation of potential banks charging theft, borrowers' low performance, resulting in significant defaults and interest rates, and even a collapse of the market. However, if banks commit to sharing information on borrowers' forms, they limit their own capacity in the future to extract information rents, leaving entrepreneurs with a significant proportion of their surplus. This results in a lower default risk, a lower interest rate and higher lending in relation to the scheme without knowledge sharing. The latter would spend more time in their project.

#### **2.1.2 Information Theory of Credit**

These refer to the amount of lending that businesses and individuals will offer to financial institutions, if they will better predict their future customers' chances of payment (Stiglitz, 1981). The information Theory of Credit was advanced by Kolmogorov in 1968 (Weijs, 2011). The weakening credit markets the more banks are aware of the credit background of prospective borrowers. Credit registers which collect and provide financial institutions with detailed information on the repayment background of prospective customers are vital for deeper credit marketplaces. The data that each side in the lending transaction has important consequences for the existence of credit contracts; credit markets' ability to effectively match lenders and borrowers; and its position in assigning credit to lenders.

Credit information theories apply to credit calculation for businesses and individuals, if banks could better predict whether their future customers will be reimbursed. In that sense, the deeper the credit markets will be the more monetary foundations think of the loan repayment record of expected lenders. Open or private

credit registers that capture and offer extended data on the repayment history of potential borrowers to money-related institutions are critical to expanding their loan markets. The information provided for the market by any credit exchange party would impose an important effect on how credit is obtained; the capacity of credit markets to skillfully tie debtors and lending specialists and the enthusiasm for lending amongst borrowers. The way of credit markets can prompt particular parts for various sorts of moneylenders and distinctive sorts of borrowers (Walsh, 2003).

At the point when moneylenders know more about borrowers, their record as a consumer, or different loan specialists to the company, they are not as concerned of the funding of non-practical activities, and in this manner augment more credit. Houge (2000) observed that speculators have a tendency to concentrate on present income and disregard bookkeeping collections and income proclamations while surveying a potential candidate, in spite of the way that these two ignored components may give better data and have more prominent prescient esteem than current profit. One way to enhance decision-making is by reliable knowledge on each party to benefit from past mistakes.

Credit scoring aims to support this decision by finding the right law for a set of past applicants. This is the basis for credit determination where a decision is taken to approve or deny a request (Thomas et al., 2002). The evaluation of a loan application makes a case by case risk management assessment.

## **2.2 Empirical Review**

### **2.2.1 Commercial Banks' Financial Performance**

In 1987, Structural Adjustment Programs (SAP) was brought into existence and over time they transformed the operating environment in the banking sector. Many countries have reduced controls on interest rates, eased government participation and opened their doors to worldwide banks (Ismi, 2004). As a result of these reforms, the world has witnessed an expansion in industrialization by the emergence of conglomerates and multinational companies. This illustrates the importance of stability of the financial sector in any economy.

It is clear that a banking sector that is profitable and sound is better placed to bear unforeseen setbacks as well as play a part in the financial stability (Athanasoglou et al., 2005) In addition to that; commercial banks play a noteworthy role in the economic growth of countries. Banks through their intermediation role contribute much to the efficient allocation of resources through mobilizing resources for the activities that are productive.

Poor financial performance in the banking sector can cause negative effects on development and growth of the economy in general. It could degenerate into an economic meltdown as happened in USA in 2007 (Marshall, 2009.) Governments should therefore involve all the players in the banking sector, come up with viable regulations and enabling environment to prevent the deterioration of the economy (Heffernan, 1996; Shekhar&Shekhar, 2007).

### **2.2.2 Customer Loan Repayment Record and Financial Performance**

This helps in assessing whether the borrower is capable of repaying the money once lent. It establishes whether the borrower has paid their bills in time, and in case of delays it gives the period of the delay. It also checks whether any of the accounts of the borrower have gone to collections. If this is the case, it is an indication that the lenders might not be capable of paying back money lent. Whether the borrower has had instances of debt settlements, wage attachments, charge offs, bankruptcies, among others. This would lead to a negative effect on credit rating (Simson and Hempel, 1999). Their study has however also showed that having a loan registry facilitated borrower repayments through lenders' recognition of borrowers with a strong history of payments.

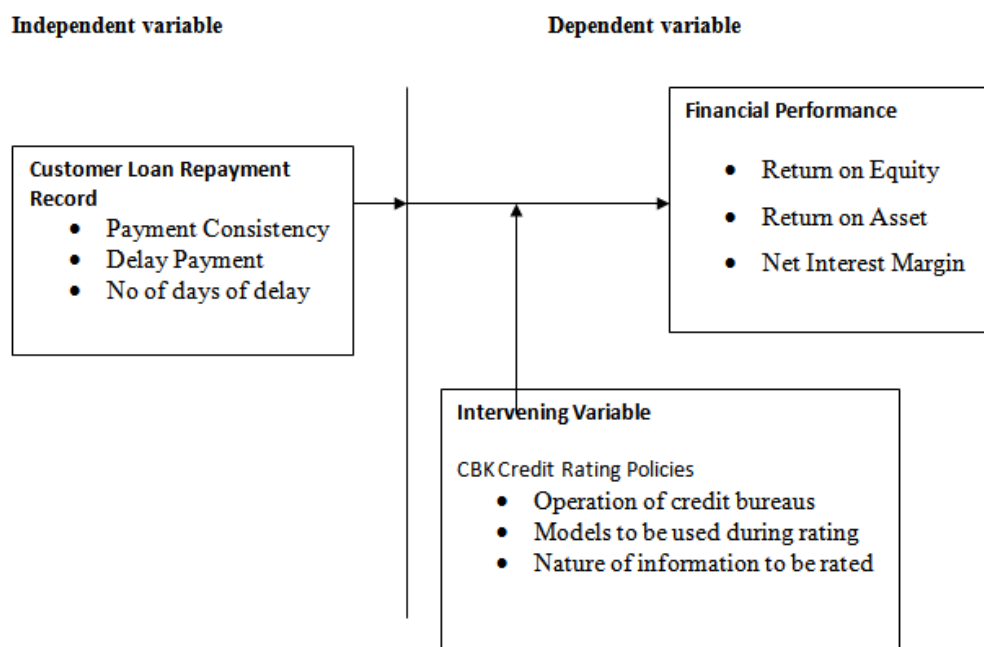
In order to understand the efficacy of loan evaluation management processes, Aliija and Muhangi (2015) conducted the case study in Uganda, which took MFIs as the case study in the municipality of the Fort Portal in Western Uganda. One of the aims of the study was to evaluate the relation between the management and credit results of the loan assessment process in microfinance institutions. The investigator used qualitative and quantitative approaches to analysis, including the use of questionnaires to gather data from 44 loan officers and credit managers. The link between the credit performance of MFIs and customer evaluation has been developed as it mainly decides whether a loan will be properly repaid or default on the basis of the payment history.

Ochieng (2016) investigated the impact of credit reference bureau on cost of debt of commercial banks in Kenya. The target population constituted all the 509 low level, middle level and top level management in credit policy department of the 42 Commercial Banks in Kenya, who were subjected to a Stratified Random Sampling to obtain respondents' from the Corporate and Retail sections of each bank, yielding a sample size of 116 respondents. The findings showed an extensive access of CRB reports by banks, which in turn influence the appraisal process of credit applications, gauging the services as critical for credit scoring. It was concluded that past payments history records mirror future trend.

The impact of lending management practices in Kenya on credit risk management among Savings and Credit Cooperatives has been reviewed by Lagat, Mugo and Otuya (2013). This involves an overview or overview of the repayment sources and the member's credit history. The study adopted descriptive Survey design and targeted 37 cooperative societies in Kenya. Data was collected using questionnaires and analyzed descriptively using percentage, frequency and means. The results revealed that most of the Savings and Credit Cooperatives in Nairobi used borrowers' payment history information to award loans at great extent which affected their financial performance.

### 2.3 Conceptual framework

The overall objective of the study was to assess the effect of credit rating information on financial performance of commercial banks. The research reviewed the following credit rating information sharing, Banks' credit policies and credit rating information. To determine whether these factors affect use of debt financing, a conceptual framework was developed to assist in analyzing data. The dependent and independent variables were summarized in the conceptual framework below:



**Figure 2.1: Conceptual framework**

## III. RESEARCH METHODOLOGY

### 3.1 Research Design

This research included a descriptive study design. The primary aim of a descriptive analysis is to determine the frequency or the relation between variables (Kothari, 2009). A descriptive research found out who, where and how a phenomenon was the focus of this study, according to Cooper (2003). In addition, a descriptive analysis investigates the results of a phenomenon (Ngechu, 2004), and thus is suitable because the study is concerned with detailed explanations and relationships to obtain credit rating information. It enabled the researcher to quantitatively and qualitatively narrow down from the broad theme of banking to credit information and be able to isolate commercial banks in Kenya, Kenya, as a case study. The design is therefore robust enough to enable the study attain its objectives.

### 3.2 Study Area

The study was carried out in Kenya. In Kenya there are 43 commercial banks, 28 of which are in local possession and 14 are in foreign ownership. Cap 491 shall supervise license procedures there for the banks of the central bank in Kenya. The CBK is engaged to safeguard investors and customers' interest. The banking act chapter 488 of 1 Jan 2013, the Kenya 2010 Constitution, the National Payment System Act of 2011 are other acts that regulate banks (CBK, 2015). Kenya's Financial Growth Standard Metric stood at 23.7 percent in 2008, with Uganda at 7.2percent and 12.3 percent for Tanzania, and a mean of 12.3 per cent for sub-Saharan Africa, with its neighbors being certified for scale and diversification (Muteti 2014).

### 3.3 Target Population

Study respondents were drawn from 43 commercial banks in Kenya. They were mainly drawn from the credit and finance departments as these are the people who are conversant with the day to day lending activities of the banks and financial performance. However, the study focused on commercial banks branches located in Busia County.

### 3.4 Sample Size

The sample size was 83 respondents. The sample must be carefully selected to be representative of the population and the researcher also needs to ensure that the subdivisions entailed in the analysis are accurately catered for (Denscombe1998). The sample size for this study was selected basing on the criteria set according to Roscoe's rule of thumb Sekaran (2003) i.e. a sample that is larger than 30 and less that 500 was appropriate for most research. The researcher adopted Yamane, (1967) formula that can be used to calculate a suitable sample for the study which comprised of employees from the thirteen commercial banks in Kenya.

$$n = \frac{N}{1 + Ne^2}$$

Where n = Minimum Sample Size; N = population size: - e = precision set at 95 % (5%=0.05)

336 (Study population) x0.5 =

$$n = \frac{104}{1+104(0.0025)}$$

n = 82.53968254≈ 83 Respondents

### 3.5 Sampling procedure

Sampling is a process of selecting a representative of a total population in order to produce a small cross section. Purposive sampling procedure was used to identify bank employees who were given questionnaires.

Lindergren (1989) notes that in a random sample there is a good chance of producing a representative population in every characteristics and the same was also noted by Dowry (1983) that a random sample is the best to represent the population when it is not feasible in times of study and cost study of the entire population hence random sample was appropriate for the study.

A proportion of the sample size was computed and this proportion was used to determine the number of respondents in each bank to be examined. The proportion was calculated as follows:

$$Proportion = \frac{Sample\ size}{Population\ size} = \frac{83}{104} = 0.80$$

The sample distribution is as shown in the Table 3.2.

**Table 3.1: Sample Size**

Name of the bank	Staff	Proportion	Sample Size
Cooperative Bank (2 branches)	12	0.80	10
National Bank of Kenya ltd	7	0.80	6
DTB – Diamond Trust Bank	6	0.80	4
Postbank	4	0.80	3
Family Bank	7	0.80	6
Sidian Bank	7	0.80	6
Equity Bank limited (2 branches)	15	0.80	11
Kenya commercial Bank (2 branches)	13	0.80	10
Faulu Bank	12	0.80	10
KWFT	14	0.80	11
Barclays Bank	7	0.80	6
<b>Total</b>	<b>104</b>		<b>83</b>

### **3.9 Data analysis**

Data was summarized, edited and coded. Both descriptive and inferential statistics was used to analyze the data collected. Descriptive statistics involved computation of mean, standard deviation, percentage and frequencies while inferential statistics was used to determine the relationship between independent and dependent variables. This involved Pearson correlation (R) and multiple linear regressions. This was done using SPSS version 20. Pearson Correlation analysis enabled the researcher determine whether there is a relationship between variables while multiple linear regression enabled the researcher establish the extent to which the independent variables affect financial performance and how much each credit rating information variable accounts for financial performance of commercial banks in Kenya at 95.0% confidence level and 0.05 significance level. Thereafter, data was presented in the form of tables and charts.

The following regression model was used for quantitative procedures examining the relationship between independent and dependent variables;

$$y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where;

Y = Financial Performance

$\alpha$  =constant

$\beta_1, \dots, \beta_4$  = Regression Coefficients

$X_1$  = Payment history information

$X_2$  = Length of Credit History

$X_3$  = the amount the borrower owes the bank:

$\varepsilon$  = the error of term.

The effect of credit rating information Policy was measured by use hierarchical regression analysis in this study, due to its nature as intervening variable in the relationship between independent and dependent variables. This was based on its additive role in the regression model. This was used to explain the significant influence above and beyond the effectiveness of independent variable (Credit Rating information) on the dependent variable (financial Performance). This was achieved by performing multiple linear regressions in two steps after controlling the effect of credit information rating in step two. The regression models are as shown

$$FP = -\alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 Z$$

$$FP = \alpha + \beta_1 X_1 Z_1 + \beta_2 X_2 Z_2 + \beta_3 X_3 Z_3$$

Where;

$Z$  = is the intervening variable (credit information rating policy)

$\varepsilon$  = the error of term.

$X_1 Z$  = Credit information rating policy interaction Payment history information

$X_2 Z$  = Credit information rating policy interaction Length of Credit History

$X_3 Z$  = Credit information rating policy interaction the amount the borrower owes the bank:

$\varepsilon$  = Error term

## **IV. DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION**

### **4.1 Introduction**

This chapter looks at data analysis, presentation, interpretation and discussion. The chapter is divided into three sections. The first section deals with demographic information of the respondents. The second section deals with assumption of linear regression and the last section (third) deals with the presentation, interpretation and discussion. The overall objective of this research was to examine influence of credit rating information on financial performance of commercial banks in Kenya. Specifically, the study addressed the following objectives: to investigate influence of customer loan repayment record on financial performance, to assess influence of existing loan balance on the financial performance, to establish the influence of previous credit period on financial performance of commercial banks in Kenya and to determine the influence of Central Bank of Kenya policies on credit rating as an intervening variable on financial performance of commercial banks in Kenya.

### **4.2 Descriptive Statistics of Customer Loan Repayment Record on Financial performance of commercial banks in Kenya**

The study sought to establish minimum, maximum, mean and standard deviation of customer loan repayment. The results are as shown in Table 4.1.

**Table 4.1: Descriptive Statistics of Customer Loan Repayment Record**

Customer Loan Repayment Record	N	Min	Max	Mean	Standard Dev.
Customer loan repayment record entails rating on-time repayment of loan.	75	1.0	5.0	3.960	1.1082
Customer loan repayment record should consider applicant late repayment information.	75	1.0	5.0	3.693	1.0651
Number of late times payments were made is vital during payment history rating information.	75	1.0	5.0	3.733	1.1429
Customer loan repayment record rating information includes how recent late payment was made by the borrower.	75	1.0	5.0	3.360	1.0860
Customer loan repayment record include why recent late payment was made by the borrower.	75	1.0	5.0	3.387	1.3345
The consistency of borrower payment history information rating reflects their default characteristics.	75	1.0	5.0	3.960	1.1323
Generally, rating of customer loan repayment record influences financial performance of commercial banks	75	1.0	5.0	4.080	1.2815

Source: Field data, 2020

The variable on Customer Loan Repayment Record had seven (7) questions and their minimum, maximum, means and standard deviations results are as shown in the Table 4.4. The question on customer loan repayment record entails rating on-time repayment of loan had responses that ranged from 1 (strongly disagree) to 5 (strongly agree) with a mean of 3.960 and standard deviation of 1.1082. This implies that customer loan repayment record entailed rating on-time repayment of loan although with significant deviation. The results further revealed that customer loan repayment record considers applicant late repayment information as indicated by a mean of 3.693 and standard deviation of 1.0651. The responses ranged from strongly disagree to strongly agree.

The results further revealed that number of late times payments were made is vital during payment history rating information as shown by mean of 3.733 and standard deviation of 1.1429. The responses ranged from strongly disagree (1) to strongly agree (1). The results also revealed that customer loan repayment record rating information fairly included how recent late payment was made by the borrower as indicated by a mean of 3.360 and a significant standard deviation of 1.0860. Similarly, customer loan repayment record fairly included why recent late payment was made by the borrower as indicated by a mean of 3.387 and a significant standard deviation of 1.3345.

### 4.3 Inferential Statistics of Customer Loan Repayment Record on financial performance of commercial banks in Kenya

Simple linear regression analysis was conducted to establish the relationship between Customer Loan Repayment Record and financial performance of commercial banks in Kenya. The results are as shown in Table 4.2. In the simple regression analysis, beta ( $\beta$ ), this is equivalent to the Karl Pearson correlation coefficient ( $r$ ) (Sekaran, 2003) was used to measure the relationship.

**Table 4.2: Regression Results of Customer Loan Repayment Record on Financial performance of commercial banks in Kenya**

Model	R	R Square	Adjusted R Square	Model Summary		Change Statistics			
				Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.315 <sup>a</sup>	.099	.087	.76659	.099	8.066	1	73	.006
a. Predictors: (Constant), customer loan repayment record									
Model	Sum of Squares		ANOVA <sup>a</sup>		Mean Square	F	Sig.		
1	Regression	4.740	Df	1	4.740	8.066	.006 <sup>b</sup>		
	Residual	42.900		73	.588				
	Total	47.639		74					
a. Dependent Variable: FP									
b. Predictors: (Constant), customer loan repayment record									
Model	Coefficients <sup>a</sup>			T	Sig.				
	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta						
1	(Constant)	.734	.362	7.551	.000				
	CLRR	.273	.096	2.840	.006				
a. Dependent Variable: FP									

Source: Field data, 2020

Regression coefficient (B), analysis of variance (ANOVA) and t-test were used to test the hypothesis at 0.05 % significance level, with 95% confidence interval, which is acceptable in social sciences. The first study tested the following null hypothesis:

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$H_{01}$ : Customer loan repayment record has no significant influence on financial performance of commercial banks in Kenya.

The results illustrated that there was a statistically significant positive relationship between customer loan repayment record and financial performances of commercial banks in Kenya. Customer loan repayment record accounted for 9.9% ( $R^2 = 0.099$ ) variations in the financial performance of commercial banks in Kenya. Therefore, rating of customer loan repayment is a significant predictor of financial performance of commercial banks in Kenya.

The test criterion was set such the study rejects the null hypothesis  $H_{01}$  if  $\beta_1 \neq 0$ . Regression results were achieved when the variables of customer loan repayment record were regressed with mean of financial performance of commercial banks in Kenya and the results are as shown in Table 4.5. Results show that customer loan repayment record had a positive, linear and significant (p-value is less than 0.05) relationship with the financial performance of commercial banks in Kenya {regression coefficient,  $B=0.273$ , beta coefficient= $0.315$ , ANOVA,  $F=8.066$  and t-test value,  $t=2.840$ }. The results are represented in the following model:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where Y= financial performance,

$\beta_0=0.734$  (constant)

$\beta_1= 0.273$

$X_1$ = Customer Loan Repayment Record

Replacing in the equation above, the model becomes:  $Y=0.734 + 0.273X_1$

From the above equation, the constant had coefficient of 0.734,  $p=0.000$ , this implies that in the absence of customer loan repayment record, financial performance will be at 0.734. This performance will be significant ( $P<0.05$ ). On the other hand, customer loan repayment record had beta coefficient of 0.273. This implies when everything is held constant, a unit increase in the rating of customer loan repayment record would results to a significant increase in performance by 27.3%.

In the test criterion, the null hypothesis is accepted when the p-value is more than 5% (0.05) and the null hypothesis is rejected when the p-value is less than 0.05. From these results, the null hypothesis was rejected since a positive, linear and significant (p-value is less than 0.05). This implied that customer loan repayment record has significant influence on financial performance of commercial banks in Kenya.

These results were consistent with previous studies showing that the consumer loan repayment record and financial performance have a positive and meaningful connection. For example, Aliija and Muhangi (2015 ) performed a study to understand the effectiveness, in the western Uganda municipality of Fort Portal, of the credit assessment process management of the credit performance of MFI in Uganda. The findings showed that MFI credit performance and consumer evaluation was closely related to whether a loan is being repaid or defaulted on a payment history. Osoro et al . ( 2015) also revealed that consumer repayment records are closely linked to Eldoret's financial results. The results showed that commercial banks offer credit on the basis of a given good repayment history criteria to borrowers.

#### 4.4 Financial Performance

##### 4.4.1 Descriptive Statistics of Financial performance of commercial banks in Kenya

Descriptive results entailed minimum, maximum, mean and standard deviation of five observable variables that ultimately measured financial performance of commercial banks.

**Table 4.3 : Descriptive Statistics of Financial Performance**

Financial Performance	N	Min	Max	Mean	Standard Dev.
The capital base of the bank has consistently increased.	75	1.0	5.0	4.053	1.2400
The profits of the banks have consistently grown.	75	1.0	5.0	3.533	1.1893
The level of non-performing loan has reduced.	75	1.0	5.0	3.453	1.2975
The asset base of the bank has consistently increased over the years.	75	1.0	5.0	3.720	1.1456
Shareholders value has being increasing over the years.	75	1.0	5.0	3.893	1.0976

Table 4.3 consistently posed the question on the bank's capital base, with answers ranging between 1(substantively divergent) and 5(strongly agreed) with an average of 4,053 and standard deviation of 1.2400. This means that, albeit with major exceptions, the bank's capital base has gradually grown. Likewise, Bank

profits have gradually risen as the average indicator is 3.533, and the standard deviation is substantial in 1.1893. There was considerable disagreement between the responses and clear consensus.

Moreover, the results showed, in the mean 3.453 and the standard deviation of 1.1975, that the level of the non-performing loan was marginally less. The answers varied from somewhat different (1) to firmly in agreement (1) with a major deviation from norm. The results also showed that the bank's asset base has gradually grown over the years, as averaged by 3.720 and a large standard deviation of 1.1456. Finally, as averaged of 3.893 and a standard deviation of 1.0976 the shareholders' valuation has been rising over the years. There was considerable disagreement between the responses and clear consensus.

This finding is in agreement with Sporta (2018) who found that performance of commercial banks in Kenya is characterized by increase in capital base among tier I and II banks. This was also evident for profit and asset base among tier I and II commercial banks in Kenya. Similar results were obtained by Kimoro (2019) whereby, commercial banks in Kenya have seen a surge in asset base and profit. Commercial banks in Kenya have continued to enjoy profit growth due to reduction of non-performing loans and financial inclusion.

#### 4.5 Credit Rating Information and Financial Performance

The main objective of the study was to investigate credit rating information and financial performance of commercial banks in Kenya. This section considered overall credit rating information on financial performance both using multiple correlation matrix and multiple linear regression.

#### 4.6 Correlation between all credit Rating Information and Financial Performance

A correlation analysis has been carried out to determine the connection between credit rating information and financial performance. Table 4.4 summarizes the results of the connection between the information given by credit rating and the actual financial performance results.

**Table 4.4: Correlation Matrix**

		CLRR	existing loan balance	PCP	CRP	FP
CLR=Customer Loan Repayment Record	Pearson Correlation	1	.179	.196	.297**	.315**
	Sig. (2-tailed)		.125	.092	.010	.006
	N	75	75	75	75	75
FP=Financial Performance	Pearson Correlation	.315**	.610**	.527**	.648**	1
	Sig. (2-tailed)	.006	.000	.000	.000	
	N	75	75	75	75	75

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

The results indicated that the relationship between customer loan repayment record and financial performance is positive and significant ( $r = .315^{**}$ ). Similarly, the relationship between existing loan balance and financial performance is positive and significant ( $r = .610^{**}$ ) and the relationship between previous credit balance and financial performance is positive and significant ( $r = .527^{**}$ ). This implies that credit rating information construct have positive and significant influence on financial performance of commercial banks in Kenya.

#### 4.7 Multiple Regression for Credit Rating Information Dimensions on Financial Performance without Intervening variable

Multiple Linear Regression analysis was conducted to find the effects of the credit rating information dimension on the financial performance of commercial banks in Kenya together for credit rating information dimensions. This led to the identification of the study model coefficients and the study R square. As shown in Table 4.5, the results are current.

**Table 4.5: Regression Analysis of Independent Variables and Financial Performance**

Model	R	R Square	Adjusted R Square	Model Summary		Change Statistics			
				Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.698 <sup>a</sup>	.487	.466	.58647	.487	22.502	3	71	.000

a. Predictors: (Constant), previous credit period

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	23.219	3	7.740	22.502	.000 <sup>b</sup>
	Residual	24.420	71	.344		
	Total	47.639	74			

a. Dependent Variable: FP  
b. Predictors: (Constant), PCP, CLRR, existing loan balance

Model	Coefficients <sup>a</sup>		T	Sig.
	Unstandardized Coefficients	Standardized Coefficients		

## *Customer Loan Repayment Record and Financial Performance of Commercial Banks In Kenya*

	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
(Constant)	.307	.441		.696	.489
1 CLRR	.153	.075	.177	2.028	.046
ELB	.435	.092	.450	4.743	.000
PCP	.333	.106	.298	3.135	.002

a. Dependent Variable: FP

a. Predictors: (Constant), Existing Loan Balance, previous credit period, Customer Loan Repayment Record

b. Dependent Variable: Financial performance

The Table 4.13 further showed that the linear relation of financial performance with the three predictor variables is positive and linear; the customer's repayment record, Current Loan Balance and previous loan balance. The correlation coefficient was 0.698, ( $r=0.698$ ). The determination factor ( $r^2$ ) was 0.487, and this indicates that 48.7% of the variance of the financial results can be explained by three predictor variables in the analysis, and the remaining 51.3% by other factors not expressed in the model.

The F-test results of the ANOVA results given  $F(3, 71) = 22,502$ ,  $p < .01$ , which was sufficiently broad in explaining the dependent variabilities to support the fitness of the model. It also implies that credit rating information is a valuable indicator for commercial banks' financial results in Kenya

Table 4:13 showed optimistic and important predictive potential for consumer loan repayment records, Current Loan Balance and preceding credit balance ( $P < 0.05$ ). If the credit rating is held at zero (or is missing), the financial results are 0.307,  $p > 0.05$ . This means that success is positive, but negligible. Customer credit payment record of 0.153, which is statistically important, is a strong indicator of financial performances, as the current credit balance is regulated by an increase of 1 percent in customer credit reimbursement record results in a significant increase of 15.3 percent. Where previous credit balance and consumer credit repayment are tracked, the current 0.435 beta-level of the loan balance means an improvement by one percent of the present loan balance results in a substantial performance increase of 45.5%. Lastly, when the current balance and consumer loan repayment history are tracked, the previous credit balance at a beta of 0.333 is statistically relevant and the outcome would be a significant improvement of 33.3 percent in previous credit balance by one percent.

The multiple linear regression pattern as defined in Table 4.16 was based upon a return of the three predictor variables against financial results:

$$\text{Financial Performance} = 0.307 + 0.153X_1 + 0.435X_2 + 0.333X_3$$

From multiple linear regression and simple linear regression, several deduction can be made, first the coefficient of determination herein referred to as R square shows that multiple linear regression accounted for more variation 48.7% as compared to individual variable in the model 27.8% (previous credit period), 37.2% (existing loan balance) and 9.9% (Customer loan repayment period). This implies that combination of these three variables would have greater impact than individual rating in isolation.

However, simple linear regression for direct effect on financial performance had higher beta coefficients as compared to multiple linear regressions. For instance customer loan repayment period had beta coefficient of 0.273 for simple linear regression as compared to 0.153 for multiple linear regression. Existing Loan balance had beta coefficient of 0.591 for simple linear regression as compared to 0.435 for multiple linear regression. Lastly, previous credit period had beta coefficient of 0.589 for simple linear regression as compared to 0.333 for multiple linear regression. The main reason why the coefficients are changing whenever the variables are combined on linear relationship different from the simple regression is because, in the multiple linear regression the effect of other independent variables in the model has significant effect on the individual coefficients hence partial effect on the financial performance unlike simple linear regression model where the beta coefficient is a result of direct effect between one independent variable on dependent variable. For instance, customer loan repayment record and existing loan balance in the model may have effect of previous credit period which may affect its relationship with financial performance unlike simple linear regression.

There was also notable different in the constant values between simple linear regression and multiple linear regression. For multiple linear regression, the constant was 0.307,  $P=0.489$  while for previous credit period was 0.514,  $P=0.001$ , existing loan balance was 0.543,  $P=0.000$  and customer loan repayment record was 0.734,  $P=0.000$ . The notable difference in constant between the two analysis is been explained by the number of independent variable in the model with partial effect on the financial performance. Secondly, with increase in standard error reduce the value of constant and at the same time decreases the confidence level (significance level) of the model. Therefore, multiple linear regressions has smaller constant as compared to simple linear regression in this study.

### **4.8 Moderating Variable of Credit Rating Policies**

The policies of credit rating have been implemented as variable moderating. The effects of the moderating impact of credit rating policies on the link between credit rating information and financial

achievement are discussed in this section. This was accomplished by hierarchically evaluating backwards in order to manage credit rating policies.

#### 4.8.1 Descriptive Statistics of Credit Rating Policies

Descriptive results entailed minimum, maximum, mean and standard deviation of five observable variables that ultimately measured credit rating policies. The results are as shown in Table 4.6.

**Table 4.6 : Descriptive Statistics of Credit Rating Policies**

Previous Credit Period	N	Min	Max	Mean	Standard Dev.
Policies on credit information rating are reviewed regularly by CBK	75	1.0	5.0	4.240	1.2394
The policies on credit information rating should ensure only qualified borrowers are award credit	75	1.0	5.0	3.733	1.2875
Credit information rating policy should entail the using of various models during credit rating information	75	1.0	5.0	3.587	1.1161
Commercial banks should have policies on sharing credit information with other organizations	75	1.0	5.0	3.893	1.3108
There are penalties for commercial banks that wrongfully blacklist customers with CRBs for bad ratings	75	1.0	5.0	2.640	1.3620
CBK policies, ensures that credit information is dutiful and rightfully rated	75	1.0	5.0	4.120	1.2516

*Source: Field data, 2020*

From Table 4.14, the question on policies on credit information rating are reviewed regularly by CBK had responses that ranged from 1(strongly disagree) to 5 (strongly agree) with a mean of 4.240 and standard deviation of 1.2394. This implies that policies on credit information rating are reviewed regularly by CBK although with significant deviation. Further, the results revealed that the policies on credit information rating ensured only qualified borrowers are award credit as indicated by a mean of 3.733 and a significant standard deviation of 1.2875. The responses ranged from strongly disagree to strongly agree.

The results further revealed that credit information rating policy entailed the using of various models during credit rating information as shown by mean of 3.587and standard deviation of 1.1161. The responses ranged from strongly disagree (1) to strongly agree (1). The results also revealed that commercial banks should have policies on sharing credit information with other organizations as indicated by a mean of 3.893 and a significant standard deviation of 1.3108.

The question on there are penalties for commercial banks that wrongfully blacklist customers with CRB for bad ratings had responses that ranged from 1(strongly disagree) to 5 (strongly agree) with a mean of 2.640 and standard deviation of 1.3620. This implies that there are somehow penalties for commercial banks that wrongfully blacklist customers with CRBs for bad ratings although with significant deviation. Lastly, CBK policies ensured that credit information is dutifully and rightfully rated as indicated by a mean of 4.120and standard deviation of 1.2516. The responses ranged from strongly disagree to strongly agree.

This result is consistent with a number of previous research on the role of rating policies in financial performance. The optimal relationship between a good rating policy and the value of loans, according to Kisaka (2017), is directly proportional to each other, so as to increase the number of loans that are paid through the increased implementation of a good credit rating system. Credit rating score methods have been expanded to include more applications in different fields since late. The AUH (2015 ) suggested that each company's credit rating policies decide how many loans individual members have been issued. A sound credit score increases the value of individual customers' loans and decreases the amount of customer loans that they will get.

#### 4.8.2 Inferential analysis of Credit Rating Policies as the Moderating Variable

The fourth objective of the study was to establish the moderating influence of credit rating policies on the relationship between credit rating information and financial performance of commercial banks in Kenya. The study tested the following null hypothesis:

H<sub>04</sub>: Central Bank of Kenya credit rating policies has no significant intervening influence on financial performance of commercial banks in Kenya

The study conducted moderating effect of credit rating policies on each independent variable (customer loan repayment record, existing loan balance and previous credit period) and later multiple linear regression with moderating effect of crediting rating policies

#### 4.8.3 Moderating Effect of Credit Rating Polices on Customer Loan Repayment Record

Table 4.15 shows regression analysis for the moderating effect of Moderating Effect of Credit Rating Polices on Customer Loan Repayment Record.

**Table 4.7: Moderating Effect of Credit Rating Polices on Customer Loan Repayment Record**

Model Summary										
Model	R	R Square	Adjusted Square	RStd. Error of the Estimate	Change R	Change Square	F Change	df1	df2	Sig. F Change
1	.675 <sup>a</sup>	.456	.448	.59587	.456		61.172	1	73	.000
a. Predictors: (Constant), CLRRCRP										
ANOVA <sup>a</sup>										
Model		Sum of Squares	Df	Mean Square		F				Sig.
1	Regression	21.720	1	21.720		61.172				.000 <sup>b</sup>
	Residual	25.920	73	.355						
	Total	47.639	74							
a. Dependent Variable: FP										
b. Predictors: (Constant), CLRRCRP										
Coefficients <sup>a</sup>										
Model		Unstandardized Coefficients		Standardized Coefficients		T	Sig.			
		B	Std. Error	Beta						
1	(Constant)	1.309	.317			4.128				.000
	CLRRCRP	.671	.086	.675		7.821				.000
a. Dependent Variable: FP										

Table 4.15 presents the regression model of customer loan repayment record influenced by credit rating policies as a moderating factor with a coefficient of determination of  $R^2 = 0.456$  and  $R = 0.675$  at 0.05 significance level. The coefficient of determination indicates that 45.6% of the variation on financial performance is influenced by customer loan repayment record after credit rating policies have interjected information rating. This percentage change is greater than unmoderated customer loan repayment record which accounted for 9.9% change in financial performance of commercial banks. This shows that there exists a positive and significant relationship between customer loan repayment records moderated by credit rating policies with financial performance.

In order to determine uniformity of the data, ANOVA was undertaken. As shown by Table 4.15, their variance would not vary substantially if the findings were made from the same population. The F statistical value of 61,172 estimated that the combined model was important and adequate to forecast the commercial bank's financial performance. The probability stated of (0.000) is smaller than that of (0.05). The moderate F numbers are higher than unmoderated at 8,066. The study of variance results revealed substantial variations in the average amount of financial output between the consumer loan repayment record that were influenced by credit rating policies  $F(1, 73) = 61.17, P < 0.05$ .

According to Dawson (2013), existence of an interaction effect be predicted is not adequate, but also its form in specific, if presence of moderator increases or decreases the relationship between two other variables should be specified. From the table 4.15 there is a positive beta co-efficient of 0.671 with a P-value =  $0.000 < 0.05$  and a constant of 1.309 with a p-value =  $0.000 < 0.05$ . Therefore, both the constant and interaction of credit rating policies and customer loan repayment record contribute significantly to the model. The coefficients significance of customer loan repayment record with influence of credit rating policies is at 0.671 and is significantly greater than zero since the significance of t-statistics 0.00 is less than 0.05. However, beta coefficient is greater than unmoderated customer loan repayment record which accounted for 27.3% prediction of financial performance of commercial banks. This demonstrates the high level of customer loan repayment record affected by credit rating policies as having a positive effect on financial performance.

Hence, the model can offer the required information to predict financial performance from interaction between customer loan repayment record and credit rating policies. The regression equation is presented as follows:  $Y = 1.309 + 0.671X_1Z$ ; Where Y = Financial performance,  $X_1Z$  is the interaction of customer loan repayment record and credit rating policies.

Compared to unmoderated customer loan repayment record with a Beta coefficient of 0.273, the interaction of customer loan repayment record with credit rating policies yielded a beta coefficient of 0.671 and an R square of 0.456 ( $R^2 = 0.315$ ). This implies that effect of customer loan repayment record increases with increase in credit rating policies. Introduction of rating policies accounted for additional 14.1% variance in financial performance of commercial banks.

On the other hand, an increase in one percentage of crediting policies would result to an increase of 67.1% effect of customer loan repayment record on financial performance. Therefore, credit rating policies has significant moderating influence on the effect of customer loan repayment record on financial performance of commercial banks. From this observation is evident that credit rating policies play significant role in enhancing the effect of customer loan repayment record information rating on financial performance. CBK rating policies which encourage rating of customer loan repayment information using various indicators ensures commercial banks in Kenya are able to advance credit to borrowers whose credit worthiness is guaranteed scientifically.

**Table 4.1: Modal Summary For Moderating Variable of Credit rating policies**

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate	Change Statistics				
					R Change	Square F Change	df1	df2	Sig. F Change
1	.698 <sup>a</sup>	.487	.466	.58647	.487	22.502	3	71	.000
2	.736 <sup>b</sup>	.542	.516	.55817	.055	8.383	1	70	.005
3	.841 <sup>c</sup>	.707	.676	.45639	.165	12.568	3	67	.000

- a. Predictors: (Constant), CLR, ELB,PCB
- b. Predictors: (Constant), CLR, ELB,PCB, CRP
- c. Predictors: (Constant), CLR, ELB,PCB, CRP, CLR\_CRP, ELB\_CRP, PCB\_CRP

The results in Table 4.15, in step 1, Credit rating information explains 48.7% of the variation in financial performance ( $R^2 = .487$ ) as obtained in the previous model (see Table 4.13) on the relationship between financial performance credit information rating.

At step 2, Credit rating policies, adds significantly to financial performance as the variation increased from 48.7% ( $r^2 = 0.487$ ) to 54.2% ( $r^2 = 0.542$ ) ( $R^2$  change = .055,  $P < .001$ ). The results reveal that the variance explained by credit rating policies is significant ( $F(1, 70) = 8.383$ ,  $p$ -value  $< .001$ ) in the two step. In this step, credit policies were added in the model as additive moderating variable and it significantly added 5.5% to previous r square of unmoderated credit rating information. This implied that credit rating policies is significant predictor of financial performance.

In phase 3, the R quantity increased between 54.2% and 70.7%. CRI structure and credit rating policies (CRP) in model 3 with the interaction between credit rating information (CRI) showed substantially more variation than just credit ratings ( $R^2$  shift = 0.165,  $p = 0.000$ ) on the relationship between the CRI and financial performance (FP). The findings have thus verified the substantial moderating effect of credit rating policies on the relationship between credit rating information and financial performance. The moderated influence of credit rating information accounted for 70.7% of the change in financial performance as compared to unmoderated credit rating information (48.7%). The significance variance was found to be at 22.0%.

**Table 4.2: Regression Coefficients for Moderating Variable of Credit rating policies**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error			
	(Constant)	.307	.441	.696	.489
1	CLRR	.153	.075	.177	2.028
	ELB	.435	.092	.450	4.743
	PCP	.333	.106	.298	3.135
	CLRRCRP	.365	.130	.145	2.808
	ELBCRP	.665	.578	.669	1.150
	PCPCRP	.725	.264	.663	2.736

a. Dependent Variable: FP

The findings in Table 4.16 show that the CRP moderating effect on the relationship between the CRI and the FP is coefficient outcome. In phase 1 all buildings displayed positive and important predicative power ( $p < 0.05$ ) following the insertion of CRI (customer loans repayment record, current loan balance and the previous credit period). This effect is similar to the model extracted in Table 4.13 for multiple linear regression models without the moderation effect of credit rating policies. The model is as shown below

$$FP = 0.307 + 0.153X_1 + 0.435X_2 + 0.333X_3$$

Step two also demonstrated positive and meaningful prediction power ( $B = 0.309$ ,  $P < 0.05$ ), when CRP was entered in the model as a complement in the model. That means that if one unit CRP increases, the FP increases by 30.9 percent. However the predictive and significance CRI constructs decreased. Further, customer loan repayment record was not significant as indicated by  $P = 0.156$  while existing loan balance and previous credit period were significant ( $P < 0.05$ ).

$$FP = 0.224 + 0.106X_1 + 0.250X_2 + 0.278X_3 + 0.309Z$$

In step three, upon the introduction of the interaction term (cross-product between CRP and CRI constructs), CRP is still significant and its predictive power increases ( $B = 0.507$ ). After the interaction terms were introduced in the model, the B coefficients for interaction terms displayed notable increase as well as the significance level as shown:

$$FP = 0.656 + 0.239X_1 + 0.280X_2 + 0.218X_3 + 0.507Z + 0.665X_1 * Z + 0.365X_2 * Z + 0.725X_3 * Z$$

Where FP is the financial performance (**Dependent Variable**)

$X_1$  is the Customer Loan Repayment Record (**Independent Variable**)

Z is the Credit rating policies (**Moderating Variable**)

From the moderated and un-moderated models, various deductions can be made, first, combined independent variables account for 48.7% variation in financial performance of commercial banks in Kenya in the first model. In the second model, the additive nature of credit rating policies moved the variation to 54.2%. In the third model which comprise of multiplicative nature of credit rating policies i.e. interaction of independent variables and moderating variable, the variation in financial performance moved from 54.2% to 70.7%. This implies that the difference between the first model and third model in explaining financial performance variation among commercial banks is 22.0%.

Secondly, the introduction of interaction terms resulted to increase in the effect of credit rating information coefficients as well as the significance level. For instance, interaction of customer loan repayment record and credit rating policies had coefficient of 0.365, this implies that when everything else in the model is held constant, an increase in interaction of customer loan repayment record and credit rating policies would results to increase in financial performance of commercial banks by 36.5%. This predicative power is higher as compared to the unmoderated effect of customer loan repayment record in the multiple linear models where it predicted only 15.3% of financial performance.

Similarly, interaction of existing loan balance and credit rating policies had coefficient of 0.665, this implies that when everything else in the model is held constant, an increase in interaction of existing loan balance and credit rating policies would results to increase in financial performance of commercial banks by 66.5%. This predicative power is higher as compared to the unmoderated effect of existing loan balance in the multiple linear models where it accounted for 43.5% of the commercial bank financial performance.

Lastly interaction previous credit period and credit rating policies had coefficient of 0.725, this implies that when everything else in the model is held constant, an increase in interaction of previous credit period and credit rating policies would results to reduction in financial performance of commercial banks by 72.5%. This predicative power is higher as compared to the unmoderated effect of previous credit period in the multiple linear models where it accounted for 33.3% of the commercial bank financial performance.

#### **4.9 Test of hypotheses**

**Hypothesis 1(Ho1)** suggested that the record of customer loan repayment has no major impact on Kenya's financial results. According to the above Table 4.13, Findings showed that there was a substantial prediction value based on  $\beta_1=0.153$  ( $p$ -value = 0.046 which is less than  $\alpha=0.05$ ) in the record on repayment for customers. Thus, the null hypothesis was dismissed, which indicates that the record for the recovery of customer loans has a significant effect on financial results. This indicated that the financial output improved by up to 0.153 units per unit in the consumer loan repayment record. Customer loan repayment records were more than 2 times the product of the mistake, demonstrated by the value  $t$ -test = 2.028.

**Hypothesis 4(Ho4)**The Central Bank of Kenya has no major interventional impact on financial output of the commercial banks in Kenya. The previous credit period, according to Table 4.19 above, has been found to contain an approximation coefficient based on  $\beta_4$  (0.309) ( $p$ -value = 0.005, less than  $\alpha = 0.05$ ), thus rejecting the null hypothesis and concluding that credit rating policies have a substantial moderating effect on financial results. This indicated that financial output improvements for each credit rating policy unit were as high as 0.309. The impact of credit rating policies was over 2 times that of the error and the  $t$ -test value = 2.895 suggested.

## **V. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Summary of the Findings**

The study was intended to investigate the credit rating details of commercial banks and their financial results in Kenya. The basic goals were to examine the impact of Kenya's financial performance on customer loan repayment records; to evaluate the influence of the current loan balance on financial performance of Kenyan commercial banks; to determine the effect on Kenya's financial performance of the previous loan duration and to determine the central bank's influence. The overview of the major findings of the study is summarized in this section, and summaries are given below.

### **5.2 Influence of customer loan repayment record on financial performance of commercial banks in Kenya**

The first objective was to investigate influence of customer loan repayment record on financial performance of commercial banks in Kenya. Both simple and multiple linear regression results showed that the relationship between customer loan repayment record and financial performance of commercial banks was found to be linear, positive and significant. These implied that customer loan repayment record had a significant ( $p$ -value<0.05), positive and strong relationship with the financial performance of commercial banks. For simple linear regression, the coefficient of determination, R-square of 0.099 implied that 9.9% of the variance in financial performance of commercial banks is explained by customer loan repayment record.

Regression coefficient from simple regression analysis revealed that a unit increase in customer loan repayment record would result to a significant increase in financial performance of commercial banks by 27.3% ( $\beta_1=0.273$ ,  $t=2.840$ ,  $P=0.006$ ). On the other hand, Regression coefficient from multiple regression analysis revealed that a unit increase in customer loan repayment record would result to a significant increase in financial performance of commercial banks by 15.3% ( $\beta_1=0.153$ ,  $t=2.028$ ,  $P=0.046$ ). At 5% level of significance and 95% level of confidence, customer loan repayment record is significant in predicating the degree of financial performance of commercial banks. Thus, the model was significant and therefore the null hypothesis was rejected on the ground that customer loan repayment record had a significant influence on financial performance of commercial banks.

### **5.3. Conclusions**

Based on the findings of the study, the following conclusions were arrived at:

The study concluded that rating of customer loan repayment record significantly influenced financial performance of commercial banks in Kenya. This implies that increase in rating of customer loan repayment record would result to improvement of financial performance of commercial banks in Kenya. Rating of loan repayment record such as on-time repayment of loan, late repayment information and why recent late payment was made by the borrower is instrumental in determining financial performance of commercial banks.

The study concluded that there exists a positive and significant relationship between existing loan balance rating and financial performance of commercial banks in Kenya. This means that when commercial banks increase rating of information such as amount borrower owes the bank at any given time; their financial performance will increase significantly. Other significant information to be rated included amount borrower owes other banks at any given time; amount borrower owes other credit providers apart from commercial banks and capacity of borrower to service various existing loan balances.

It can also be concluded that there exists a positive and significant relationship between rating of previous credit period and financial performance of commercial banks in Kenya. This implies that increase in rating of previous credit period would result to increase in financial performance of commercial banks. It was found that commercial banks in Kenya rated information on previous credit to apprise banks on the extent of credit utilization by borrowers. Previous credit period information rating showed borrower's ability to handle credit.

Finally, the study concluded that CBK credit rating policies had significant moderating effect on the relationship between credit information rating and financial performance of commercial banks in Kenya. Therefore credit rating policies have significant effect over and beyond credit information rating of commercial banks in Kenya. Credit information rating policy entailed the using of various models during credit rating information and policies on sharing credit information with other organizations which ensured that only qualified borrowers are awarded credit.

### **5.4 Recommendations**

The study recommends the following as derived from the study conclusions.

Rating of customer loan repayment record has significant influence on financial performance; the study therefore, recommended that rating of customer loan repayment information should entail on-time repayment of loan and late repayment information with emphasis on why and how so as to reflect their default characteristics.

### **5.5 Suggestions for Further Research**

The findings established that CBK credit rating policies are significant moderators of financial performance of commercial banks and credit rating information. However, CBK policies on credit rating information were found to have negative effect on the relationship between credit rating information and financial performance. Therefore, further research should investigate individual policies on customer loan repayment record, existing loan balance and previous credit period.

The study used primary data; however, further studies should use secondary data and therefore operationalize customer loan repayment record, existing loan balance and previous credit period as well as financial performance using secondary data obtainable from individual banks to compare the findings.

## **REFERENCES**

- [1]. Adams, M., Burton, B., & Hardwick, P. (2013). The determinants of credit ratings in the United Kingdom insurance industry. *Journal of Business Finance & Accounting*, 30(3/4), 539-572.
- [2]. Ahmad, F., 2013. Corruption and Information Sharing as Determinants of Non-Performing Loans. *Business Systems Research Journal*, 4(1), pp. 87 - 98.
- [3]. dos ratings corporativos de empresas brasileiras, 1995-2007. *Anais do Encontro Brasileiro de Finanças*, São Leopoldo, RS, Brasil, 9.



- [4]. Brown, M., Jappelli, T. & Pagano, M. (2009). Information Sharing and Credit: Firm-Level Evidence from Transition Countries. *Journal of Financial Intermediation*, (18), 151-172. 39
- [5]. Brunner, A., & Krahn, J. P. (2013). Hold-up in multiple banking: Evidence from SME lending. *International Journal of Banking, Accounting and Finance*, 5(1-2), 78-101.
- [6]. Carletti, E., Cerasi, V. & Daltung, S. (2006), "Multiple-Bank Lending: Diversification and Free-riding in Monitoring, Working Paper, Department of Statistics: Universitadegli Studi
- [7]. (2008). *Microeconomics of Banking*. 2nd Edition.
- [8]. Kurui, S. K., & Kalio, A. (2014). Influence of Credit Risk Management Practices on Loan Performance of Microfinance Institutions in Baringo County. *International Journal of Science and Research*, 3(10), 2260-2267.
- [9]. Lagat, F.K., Mugo, R. & Otuya, R. (2013). Effect of Credit Risk Management Practices on Lending Portfolio among Savings and Credit Cooperatives in Kenya. *European Journal of Business and Management*, 5(19), 93 – 105
- [10]. Olweny, T., Shipho, T.M. (2011) Effects of Banking Sectoral Factors on the Profitability of Commercial Banks in Kenya. *Economics and Finance Review*, 1(5), 1-30.
- [11]. Padilla, A.J. & Pagano, M., (2000). "Endogenous Communication among Lenders and Entrepreneurial Incentives," Papers 9407

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