

**THE RELATIONSHIP BETWEEN CREDIT RISK MANAGEMENT AND  
NON-PERFORMING LOANS IN COMMERCIAL BANKS IN KENYA**

**BEATRICE CHEROTICH SOY**

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## DECLARATION

This research study is my primary work and no one has ever submitted it for examination in any other institution of higher learning.

Signature: -----

Date-----

**NAME: BEATRICE CHEROTICH SOY**

**REGISTRATION NO: D63/72694/2014**

This research project has been submitted for examination with my approval as university supervisor.

Signature.....

Date .....

**NAME: DR LISIOLO LISHENGA**

**DEPARTMENT OF FINANCE AND ACCOUNTING**

**SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI**

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## **DEDICATION**

I dedicate this project to my parents Stanley and Sally Soi owing to their support while undertaking my studies. I will forever be indebted to them for the support. May God bless and increase your portions.

## **LIST OF ABBREVIATION**

CAPM	Capital Assets Pricing Model
CBK	Central Bank of Kenya
MPT	Modern Portfolio Theory
ROE	Return on Equity

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## **ABSTRACT**

The aim of the study was to identify the connection between Credit Risk Management and Non-Performing loans in Kenyan banks. This study considered two major theories which the Capital Assets Pricing Model and the modern portfolio theory. This study targeted all the licensed banks in Kenya which formed the population. The Central bank supervision report declares that there are 43 banks operating commercially in Kenya. The 43 banks, therefore, formed the target population of the study. A questionnaire was used to collect data on credit risk management in various banks and secondary data was used to obtain Non-Performing Loans. Inferential and descriptive statistics was used in data analysis. The study concluded that Commercial Banks in Kenya have developed guidelines and guiding principles for recognizing, weighing, monitoring and controlling credit risk. The credit risk policies and procedures developed looks into credit risk in all the bank's actions and at the personal and portfolio credit levels. According to the study, the board of directors approves the polies and strategies of the risk. New credit output and actions are subjected to sufficient risk management methods and measures before introduction and implementation. The results of the study recommends the fact banks should use credit risk management techniques to evaluate the clients by reviewing the lending terms and conditions of the clients to reduce level of Non-Performing loans. The bank board should lay down risk management strategy and devise rules and procedures to be observed in lending. The management of risk should also be constituted on portfolio basis, to adopt an inclusive approach determining the total exposure of risk in evaluating risk profile of the banks and reducing Non-Performing Loans.

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of the Study

In the current climate of forceful cutthroat pressures, changing economic state, increase default and increasing altitudes of commercial and consumer loans, an institutions capability to effectively oversee and regulate its credit risk could differentiate the accomplishment of objectives and business survival (Altman, 2002). Historically, dramatic losses have been seen in the banking firms. Organizations which performed well previously suddenly goes to losses due to unfavourable loan exposures, loan price angles taken, or derivative exposures that were or ere not calculated correctly to mitigate balance sheet risk (Santomero, 1997). As a result banks have universally commenced their control sysetems advancement and risk management. The nature of banks business exposes to risks of default. Careful credit risk analysis and creation of adequate bad debts provisions can cushion the banks against risk of default.

Ekrami and Rahnama (2009) stated that the high volumes of non performing loans signifies huge credit risk in the current system of banking and this exposes banks to market and liquidity risks. Banks try as much as possible to control internal risks since a huge junk of the risk and its future penalties couldn't be avoided. NPLs result because of ineffective policies, weak techniques of credit evaluations, loan granting which disregards bankroll and inapropriate functional signal constraints (Morton, 2003).

Financial institutions apply several styles of reducing the risk of credit. The most prevalent are similar counter-party loan and deposits net off, guarantees, and collateral. Net off of payments and

receipts is done and balance paid hence decreasing the risk of credit. Insurance of credit, collection of debt, factoring, credit letters and surety bonds are other commonly used methods. Whilst Usage of these methods will either transfer otherwise reduce risk of lending, different risks may come up including operational, law related, cashflow and commercial risks (Stutz, 1985). According to Venkat (1999), its not possible desirable to completely decrease risk from he proposition of business.

Gregoriou and Hoppe (2013), states that lending of a bank is a credit involving financial assets redistribution between lending and borrowing parties. Credit is normally viewed as acquisition of money by the borrower from lending party. This acquisition is principal. Banks cost of lending is referred to as interest which is credit fees charged to borrowers. Loans are associated with the risk of credit. Institutions of finance extends loans which is one of their major roles and income source to banks. Waymond, 2012 stipulates that banks loans increases supply of money in the economy.

Basel (1999) states that an appropriate management of risk outline pay attention to various areas which are : formulation of a dependable credit risk climate; working with a dependable loan advancement procedure; keeping a proper administration of credit, overseeing and assessment procedure; and ascertaining suitable risks of credit controls. Though specific management of risks procedures may vary among lending institutions because its dependent on the kind and ramification of their credit tasks. These roles should also be executed together with rigorous quality assessment practices, the disclosure of credit risk and the adequacy of provisions and reserves (Ekrami & Rahnama, 2009).

### **1.1.1 Credit Risk Management**

This is the procedure of assessing risk in investment (Ekrami &Rahnama, 2009). It is significant to banks as it is an important loan process component. It pays great attention on bank risk and risk adjusted rate of return by maintaining credit risk exposure with an aim of protecting the bank from the negative effects of credit risk. Banks spends so much capital in trying to manage credit risk (Shubhasis, 2005). Credit risk management entails two processes; the first thing is to determine the risk source then the decision on the type of investment to undertake can be made and the risk versus balance of return viewed from an advantageous position. The second thing is to determine ways of measuring Credit risks usinf various models.Reduction of risk can be achieved through monitoring the behavior of clients who anticipate applying for credit in the undertaking. Credit assessment is an important credit risk management aspect. As a result of the critical impacts of credit risk which can lead to failure of a bank due to bad manaement, it is important for a bank to have the capacity to analyse, administer, supervisenand control, advances, implement and repossess,loans instruments of credit and loan guarantees. (Joetta, 2007).

The models of credit risk management comprise of rules, procedures and regulation cited by a company to ensure adequate recovery of loan grants and non payment possibility (Nzuve (2013). Huge volumes of loans which are not performing continues to be a great concern and challenge to many banks in kenya.This is an indication that credit risk faces commercial banks. Policies of credit aids in determining the frame work of managing and extending credit. Two major systems of valuing credit with respect to loan assessment requests (Hempel, Simonson, and Coleman (2004). One of the systems appraise loan applicants by assigning scores to various charasteristics of the applicants.This system is termed as empirical analysis of credit. The other system is referred

to as judgmental which analyses applications of loans based on knowledge and experience of the bank officer who appraises the loans. The kind of characteristics analyzed are history of employment, loan performance of existing loans, kind of accounts held and age of applicant. (Shubhasis, 2005). Other ways of measuring credit risk include: Credit policies development, credit exposure determination, credit rating and credit risk premium determination.

### **1.1.2 Non-Performing Loans**

Financial institutions may face losses due to unserviced loans as defined by Central Bank of Kenya (CBK). It's important to note that non-performing loans refers to credits whose fee or principal remains outstanding three months after the date due. According to Central Bank, the volumes of loans which remain unpaid has been growing over the years. 56 billion in 1997 to 83 billion in 1998 to 97 billion in 1999. The huge NPLs volumes has remained a major point of concern to central bank (CBK, 2010).

A credit facility is termed as non-performing if servicing of principal and interest are past due by three months or more or three months have elapsed recovery of interest, disbursements have been refinanced or slowed down by contract, capitalized, or payments are less than 90 days overdue, but there are other noble reasons to doubt that full payments will be made (International Monetary Fund, 2005). The financial distress recently witnessed in USA and Europe is an indication that NPL amount is a signal of increase insolvency and failure threats. The financial markets with NPLs which are high, however, have to diversify their risk and form portfolios with NPLs along with performing loans, which are broadly traded in the financial markets. In this regard, Germany was among the leaders of NPL markets in 2006 because of its highly competitive market and sheer size (Misati, Njoroge, Kamau, & Ouma, 2010).

### **1.1.3 Commercial Banks in Kenya**

The Central Bank of Kenya Act (Cap, 491) states that Kenyan Commercial banks are governed by various prudential guidelines and the Companies Act (Cap, 486), Banking Act (Cap, 488) which are issued by CBK. Formulation and implementation of the monetary policies is the primary responsibility of central bank. The activities, liquidity and solvency of the banks are monitored by the central bank. This comprises financial risk management and financial management of the various commercial banks in the country (CBK, 2016).

By the end of 2015, forty four banking institutions, (forty three commercial banks and one mortgage finance company), nine banks which are microfinance (MFBs), eight offices which represent foreign banks, two Credit Reference Bureaus (CRBs), 87 Foreign Exchange (forex) Bureaus and 13 Money Remittance Providers (MRPs). Out of the 44 banking institutions, 30 are owned locally and fourteen are owned by foreigners. Out of the 14 banks which are owned by foreigners, four are branches of banks incorporated outside the country and 10 are subsidiaries of foreign banks locally incorporated. Moreover, of the forty four institutions of banking, ten are listed on Nairobi Securities Exchange (2015).

Commercial banks bear the burden of diverse financial risks while in their day to day activity of financial service provisions. Therefore, it is important for the institutions of banking to set tools of management which are dependable. Other institutions have a dual system which rates the credit facility and the borrower. The borrowers' credit score and the loans agreements and collaterals are

determined. Other banks desire such a duple system but some claim that it conceals recovery to isolated the loan from the borrower in such a manner (CBK, 2016).

## **1.2 Research Problem**

The Banking sector is currently experiencing pressure from both the Public and the Government to lower the interest rates on loans. On the other hand, Banks are facing various challenges like loans which are not performing, interest rates which are static, services of money transfer via mobiles have impacted their profits. Ongoing banking sector competition and technology innovation, new entrants in the market has created various services and bank products for wholesale and retail customers of banking. They comprise activities including deposit accounts opening and getting loans financial information access and as comparatively services and products which are new such as personalized financial “portals,” payments of services and bills electronically, account accumulation, exchanges and business-to-business market places. Many problems arise in the process; one being inability of customers to repay the loans hence becoming Non Performing. The intention and capability to may could be included; prior approval of loans should be confirmed by banks via risk management processes that a borrower has repayment capability in future or else it will be defaulted.

Previous studies have been done related to credit risk management and Non-Performing Loans. For example, A study of the relationship between financial, macroeconomic factors and non-performing loans in Bangladesh commercial banks (Ahmed, 2006. The outcome supports the fact that loan maturity horizon and bank size affects the non performing loans in a negative way. The connection between banks performance and credit risk management was studied by Claudine and



Felix (2008). The results confirmed the inverse relationship of the ratio of return on assets(ROA) and return on Equity(ROE) which measures profitability to non-performing loans to total loans ratio of institutions which therefore leads to reduction in profits. The risk of credit has a positive impact on prosperity of Sweden banks. This is according to Hosna, et al. (2009).

The relationship between credit risk management strategies and non-performing loans volume in institutions which are microfinance within the nyeri locality was studied by Mwithi (2010). The study findings showed that management and strategies of credit risk were stringent. Another study on credit risk management and banks profitability was undertaken in Kenya by Kithinji (2010). Outcome of the study was that profits of commercial banks were affected by other variables since majority of the returns were not affected by non performing borrowings and credit levels. A connection between loans which have no returns, credit amounts and profits was not determined by the study.

A survey on the credit risk effect on banks financial performance was carried out by Musyoki and Kadubo (2011) in the years of conducted a study on how financial performance is affected by credit risk management between 2006 and 2000. The study aimed at establishing the appropriateness of the different factors of controlling credit risk since it impacts performance of banks. The survey found out that the factors impacted performance of banks inversely. The rate of non payment of loans was an indicator of performance of banks and other measures of management of credit risk.

The dreaded impacts of the risk of credit necessitated managers to carry out a high level assessment of credit risk touching on portfolio management of credit, operations, loan extensions, policy on provisions and classification of assets. The relation between risk management of credit and loans

which are not performing in Kenyan commercial banks has no empirical evidence which is notable. Hence, this study pursued to answer the following question, what is the relationship between Credit Risk Management and Non Performing Risk in Commercial Banks in Kenya?

### **1.3 Research Objectives**

The study aims at identifying the relationship between Non performing loans in Kenyan banks which are commercial.

### **1.4 Value of Study**

The outcomes of the research will assist the Government of Kenya in growing the banking sector through credit risk management. One of the major change drivers in Kenya is risk management. The outcomes of the research will enable the Kenyan government to see the importance of risk management of credit and loans without returns. Through this, the government may aid in introduction of incentives which are not monetary and in removal or reduction of taxes

The study outcomes will help banking sectors and other sectors in determining the value of credit risk management on their achievements in profits boosts. Organizations are increasingly becoming more aware of the value risk management.

The research increases knowledge thrust on the credit risk management and Non-Performing Loans link. Other African banks will understand and ascertain loans and risk management of credit which may result from their businesses in order to improve their performance. Outcomes of study will enlighten the banks on the risk management strategies which will reduce the cost of undertaking benefit cost analysis in their businesses.

Study outcomes will also be helpful to the policy makers because it will shed more light on Loans which are not performing and management of credit risks. which will assist in formulating credit risk management strategies. This study will help to identify the gaps in sector of banking management of risk of their credit extensions.

To scholars, study findings will add value to knowledge in existence as it cites credit risk management ways and Non-performing Loans. The study leads to increased research on credit risk management and Non-performing Loans.

# **CHAPTER TWO**

## **LITERATURE REVIEW**

### **2.1 Introduction**

This section presents the previous studies and existing theories on the relationship between Credit Risk Management and Non-Performing Loans. It addresses theoretical review which focusses on existing on the study. It also looks at the empirical study which concentrates on the studies done by other researchers on the topic. Bank lending, credit risk management, factors to consider in bank lending and a literature review summary is also provided.

### **2.2 Theoretical Review**

Theories related to Credit Risk Management and Non-Performing Loans are reviewed. The study considered Capital Assets Pricing Model (CAPM) and Modern Portfolio Theory (MPT).

#### **2.2.1 Modern Portfolio Theory (MPT)**

Modern Portfolio Theory (MPT) is a concept of a venture which attempts to capitalize on profit and reduce risk by prudently selecting different assets (Markowitz, 1952). Markowitz founded the Theory in 1952. MPT is a finance theory that endeavors to ensure maximization of return expected from a portfolio with a stated portfolio risk level by prudently choosing the proportions of various assets. Expected returns should consider uncertainty due to market imperfections. The theory is a mathematical formulation of the theory of diversification, with the goal of selecting a collection of assets that has collectively lesser risk than any individual asset (Markowitz, 1952). The MPT is established on the mean-variance analysis model expanded by Markowitz. He derived the projected rate of return for a collection of assets and an expected risk measure. Markowitz

presented that variance of the rate of return was an important measure of portfolio risk with underlying assumptions (Reilley & Brown, 2012). He derived the formula for calculating the variance of a portfolio which showed the importance of investment diversification to decrease total risk and how to diversify adequately. Markowitz's model is based on the following assumptions: First, venture capitalist care for risk over a single time period. Second, venture capitalist optimizes one-period utility, and their graphs reveal diminishing marginal utility for capital. Third, venture capitalist approximate portfolio risk by the inconsistency of the expected returns. Fourth, venture capitalist makes their decisions exclusively on expected return and risk. Fifth, for a given level of risk venture capitalist, favor greater returns over lower returns or for a small portion of expected return which they prefer less risk to more risk. He exhibited that when investors consider the mean–variance criteria, they choose a combination of market portfolio and a risk-free asset when constructing their portfolio structure (Reilley & Brown, 2012).

From the 1980s, commercial banks have effectively utilized MPT in evaluating market risk. Currently, numerous banks are applying earnings at risk (EAR) and value at risk (VAR) techniques to mitigate their exposure to financial risk when there is a change in interest rates. However, notwithstanding that default risk still remains the largest vulnerability faced by most of the banks, application of MPT has failed to mitigate default risk (Margrabe, 2007). It is now understood by banks that credit with similar characteristics can negatively influence their financial performance. Consequently some sophisticated organizations are keenly following quantitative methods to measure and evaluate credit risk, however data issues still remain an obstacle.

The asset-by-asset method is fundamental in controlling credit risk, however, it doesn't give a perfect interpretation of credit risk of a combination of assets. Risk in this case refers to the is used to refer to the likelihood that a loss will occur. Therefore, in order to attain a better understanding of credit risk exposures, banks gradually seeks to augment the use of this method with a quantifiable credit models in assessing risk of a portfolio. A limitation associated with this method is its incapability to detect and measure concentration.

### **2.2.2 Capital Asset Pricing Model (CAPM)**

William Sharpe pioneered the CAPM model in 1964 resulting from the foundation laid by Markowitz (1952). It provides an accurate forecast about the association between risk and expected return of an asset. It offers a measure of return for assessing likely investments. CAPM is also used to predict the expected return on assets (ROA) which have not been traded. The model has assumptions that: First, all investors are focused on a one time period, and they seek out to optimize the expected utility. Second, all venture capitalist can borrow and loan infinite amounts at a particular risk-free rate. Third, all venture capitalist have identical approximations of variance and covariances among all assets (homogenous expectations). Fourth, there are no transaction costs, no taxes and venture capitalist are price takers and fifth, the amounts of all assets are specified and fixed (Reilley & Brown, 2012).

The model provides a framework to allow prediction of asset prices and returns under equilibrium conditions. CAPM relates systematic risk with returns for all the assets. The model deals with how to measure systematic risk and its effect on required returns and security values. The larger the risk, the greater the premium investors will require being induced to hold the asset. The model thus links security return to its risk (Reilley & Brown, 2012).

### **2.3 Factors influencing level of Non-Performing Loans**

Loans which are not performing results from low standards of credit assessment and appraisal than that which is desirable. This is further worsened by flaw in the financial reports, failure to disclose key information, and advancing excess credit. When determining current valuation of loan's position, the loanee's credit score and the current worth of security pledged in the market are not factored in thus making it hard to identify them. The reasons for failure to repay the loan amount vary per country. Karim et al. (2010) examine the association among bank efficiency and non-performing loans in Singapore and Malaysia using the Tobit simultaneous equation regression model. The findings show greater non-performing loan impacts negatively on efficiency in terms of cost. In addition, non-performing loans are raised by the lower cost efficiency. These findings also is in support of the proposition posed by Berger & DeYoung (1997) who established poor administration raises the extent of nonperforming loans. Amongst the macroeconomic factors, producer price index rate reveals a positive, substantial association with nonperforming loans. Also, interest rate reveals a negative substantial correlation with nonperforming loans in the Islamic banking sector in Malaysia (Adebola et al., 2011).

Few of the loan defaults that make trouble for banks is as a result of giving less devotion to borrowers. The borrowers are more attentive to the loans they borrowed if they're aware that better attention is accorded to them. Financial institutions rarely lose money just because its decision of lending was inappropriate. Even where banks identifies bigger exposures, they only cause a loss after taking necessary care. Most banks lose money as they fail to continuously monitor collateral pledged against the loan, and fail to take into consideration the early warning signs of the likely loan default. Banks failure to monitor the borrowers and what they are undertaking with the loan

granted on a continuous basis, will not be able to predict the risk of loss of the money. The reason of overseeing a loan is to check, to begin with, if the base on which the loaning choice was taken stays to hold great. Secondly, whether the loan funds are being legitimately used for the reason they were allowed.

Stable macroeconomic environment and soundness of the banking sector are inevitably connected. Both monetary hypothesis and observational proof emphatically show that macroeconomic precariousness is connected with uncertainty in the financial and banking sectors and instability in these sectors are associated with uncertainty in the macro economy. Most issues of poor advance quality confronted by banks were aggravated by macroeconomic instability. This is for the most part shown by high inflationary rate and make credit evaluation by bank more troublesome since the prospective loanee's feasibility relies on general improvement of inflation levels, interest rates, its individual segments, and financing costs.

Macroeconomic uncertainty poses a myriad of challenges to the loan standards of banks in any nation. Volatile inflation rates increase the uncertainty of earnings because of the sharp fluctuation, and in the light of the fact that it regularly includes a high level of inconsistency in the rates of increment in the cost of the specific administrations and merchandise which make up the general value file. The probability that organizations will make misfortunes ascend; as does the chance that they will make bonus profits. General observation is that the unpredictable nature of the macroeconomic environment leads to the high amounts of loans which are not performing loans in the industry of banking and the sector of finance generally.



## **2.4 Relevant Empirical Review**

### **2.4.1 Bank Lending**

The money lending activity in a vibrant and robust banking sector is necessary for any country in accelerating its economic development agenda. Increasing of capital base ensures sustainability of investment function through capital accumulation. Once an adequate level of capital has accumulated, sound investment sets in, that in the long run prompts to a stream of capital later on. Financial institutions, especially banks, play out these activities through various instruments, for example, credits (Islgood fpram, 2009). Lending is the according of loan by one party to another. Lending assumes that a borrower will not repay the amount owed soon but plans to reimburse the funds in the future, making it an obligation.

To facilitate banks in their financial intermediation process, they pool resources from those saving as bank deposits after which they give them to borrowers as credit. Banks accepts client deposits and utilize those funds to offer credit facilities to different clients or put in alternative profitable investments which will earn a higher return than the sum paid on bank deposits (McCarthy et al., 2010). Clients' deposit is essential in financing bank credit thus, guaranteed or increased savings by clients have a direct and positive impact on amount to lend out to borrowers. Commercial banks grants credit to different types of borrowers for many varied client needs, to put in personal, business or corporate use (Saunders & Cornett, 2003).

Debt financing is mainly serviced through long term bank loans. These matching of borrowers and savers by banks is beneficial. Granting of credit by commercial banks to its clients is the core economic activity. with the main objective of bank management is to earn income in addition to

serving the credit requirements of its community (Reed and Gill, 1989). Lending, therefore, symbolizes the core activity in the banking industry. Loans are the principal asset representing 50 to 75 percent to the total amount of assets that most banks holds, which result in generating the biggest share of revenue.

#### **2.4.2 Credit Risk Management**

Loans form the primary source of revenue for most banks though it poses potential risk in the industry. Also, it contributes in the development of every country. Bank credit is the main source of debt financing accessible to diverse clienteles whether business, personal or corporate. The fundamental requirement for credit advancement depend on the borrowers and their intended use. Banks also strive to increase on their revenue generating activities and they utilize the granting of loans to their customers as a chance to cross-sell other products and services they offer when they apply for credit services (Koch & MacDonald, 2003). For any business to be successful it should strive to satisfy their customer needs in addition to making profits. Likewise, for strong financial institutions should satisfy desperate banking needs of their clients and community.

Depositors prefer short terms, higher interest rates, and no risk. On the contrary, borrowers search for longer terms with lower rates. For that reason, financial organizations engage in risk intermediation business. It's essential for financial institutions to correctly evaluate, monitor and manage risk taken in order to be successful (Barrickman, 1990). Cuthberston & Nitzsche (2003), argued that risk management skill has undergone modernization in the last ten years. Use of technology has made it easy for exchange of information, and the emerging global and complex financial markets has compelled the banks to recognize, evaluate, alleviate and deal with risk in a

different tactic from what used to in previous years. Basel II Accord is the most recent credit modeling software, and it has led to significant improvements towards structuring an appropriate capital adequacy requirements in credit risk modeling. Banks should decide their risk avidity, how to compete in the market and how to allocate their resources optimally. Generally, a bank strive to balance the risk in a competitive market, risk transfer and maximazation of portfolio yield. Nevertheless, in this pursuit, banks should have enough information on pricing of the loan in a competitive market, marginal risk-adjusted contribution, about risk management, and monitoring of economic capital (Cuthberston & Nitzsche, 2003).

### **2.4.3 Factors Affecting the Lending**

The loan allocation and the loan portfolio of any individual financial institution e.g. commercial banks will be dictated by lending decisions. The nature, size, and the structure of loan portfolio is a reflection of financial institutions lending decisions. The lending decisions are influenced by the following: The size of the lending institution. This is very vital in determining the size of the loan to lend. Further, it also restricts the potential market for borrowers such that if a financial institution is small and therefore its geographical coverage is small, its lending decision will differ from Multinational financial decisions. Its loaning decisions will also depend on the business potential in the areas of its coverage. The small financial institutions should, therefore, consider their local community and the immediate environment when drawing up the lending decisions. Multinationals will consider a wider environment (George & Simonson, 2000).

Economic conditions are the other factor affecting lending. Economic condition refers to the economic activities around financial institutions operating environment. Many banks are usually

located in areas where economic activities are either dominated by manufacturers or service industry, etc. Lending policies should, therefore, be tailored according to the predominant business activity in the bank's environment. Of great importance here is to focus on the flow of business within this environment and design policies that are able to tap the benefits to the firm. In periods of corporate bankruptcy, it is also important to notice that certain loan policies are necessary to help re-organize bankrupt institutions and transform them into highly profitable organizations (Dyer, 1997).

Credit Analysis affects lending. Credit analysis assesses the probability of a borrower defaulting on a offered loan. It involves assessing a borrower's needs and financial circumstances which include: Character or the person's character traits like individual values consideration, honesty, and integrity. Often, this is established on the borrower's historical behavior in repayment of earlier loans borrowed and banking in general. The borrower's capacity which focuses on whether the borrower can make adequate funds to liquidate the borrowed amount and still stay financially healthy. This involves analyzing the manager's ability, policy documents of the firm, strategic plans, investment approaches, credit statements, etc. in addition judging the market potential of the institution. The judgment should be both on liquidity as well as the solvency of the establishment.

Collateral is the other factor affecting lending. According to the provisions of Central Bank, all loans offered by banks must be secured to protect the borrower's funds. The worth of the security should be determined and title documents charged to the loan which should not exceed 2/3 of the value of the securities. Capital invested individually by a borrower in business indicates the amount

he can lose personally invest in the business is an indication of the amount a borrower can lose in case of business failure. Interested lenders and investors will expect the loanee to have contributed from their own assets and to have undertaken personal financial risk to create the business before advancing any credit (George & Simonson, 2000).

#### **2.4.4 Loan portfolio quality**

A loan portfolio is said to be performing when loan repayments are being made as per the contractual agreement between the lender and the borrower. Non-performing Assets are those loans that all indications shows that they will not be fully repaid. A loan facility is said to be non-performing when principal and interest repayments it remains unpaid for at least 90 days. Interest accruing on a facility is suspended once the facility has not been serviced for over 90 days, in order to mitigate rapid escalation in impaired loan amounts. According to Alton & Hazen (2001), they describe non-performing loans (NPLs) as those credit facilities that are still outstanding for at least ninety days or interest are suspended on them. Lending money is the core activity of any financial institution.

The credit creation process is said to be efficient and effective when finances are allocated from the depositors to the borrowers (Bernanke, 1993). Granting of credit to borrowers, has a profit element just like any other business which is interest returns on the credit sold. Should most of the credit granted not be repayed as per the loan contract agreements, then a bank risks losing on income; thereby weakening the bank(s) ability to pay. Ultimately a bank that is weakened would face bankruptcy and it's customers will loose trust. Robert and Gary (1994) noted that the major reasons for bank failures were not because of operational inefficiencies, rather it's a build up in

the bad loan amounts. An increase in the amount of bad loans hampers the day to day running of the financial institutions. Controlling NPAs is essential for both the the economy's financial environment and the financial health of every bank (McNulty et al. 2001). Meeker and Laura (1987), attaches greater importance to the buildup of bad loan amounts in banks it shows the quality of the loan portfolio.

Reddy, PK (2002) argues that the issue with bad loans was not attributed to lack of strict policies and guidelines, rather it was because of misstatement of financial statements by banks to declare higher profits postponing the problem, legal impediments, and political interference in reporting. Yadav, (2011) argued that increased amounts of bad loans engages most bank employees in instituting administrative bad debt recovery actions which include court processes redeem the loans instead of investing more on selling of additional loans. When the amount of bad loans increases a bank not only loose on income generated from operations but also have to put aside funds as provisions to protect itself from anticipated loan defaults. A healthy asset portfolio is important for a bank to operate quite efficiently and also enable the bank to meet its obligations.. Batra, (2003) argued that non-performing assets influences decisions of the bankers in terms of the nature of funds, lending and the allocation of funds in granting credit.

CBK annual report (2010), reveals that dealing with non-performing assets by banks still poses a major challenge because of its potential impact on the quality of loan portfolio. The amount of bad loans and provisions in their accounts thereof determines the financial performance and soundness of every bank. Meeker and Laura (1987), attaches greater importance to the buildup of bad loan amounts in banks it shows the quality of the loan portfolio. The indicators credit risk includes the

amount of bad loans and provision of bad and likely loan defaults (Jimenez & Saurina, 2006). Ahmed (2010) discovered that from the regime change there efforts have been put in place to reduce the rate of non performing assets in order to ensure healthy asset portfolio. A healthy loan book shows effective credit management by banks and the banking staff. Loan repayment as per the loan contracts ensures the banks being able to generate revenue and is a reflection of a sound financial institution.

#### **2.4.5 Credit scoring models**

A credit rating is a score that reflects the possibility of a consumer repaying a debt. Credit scoring model is a statistical analysis used by credit reference bureaus and banks to evaluate your credit worthiness to be eligible for a loan. Scoring calculations are founded on repayment history, the prevalence of payments, amounts of debits, charge-offs, and an aggregate of credit cards currently held. A predetermined weight is allocated to each item considered in the model and a credit rate assigned depending on the credit assesment. Credit scores assist lenders in determining risks, terms and interest rates of the loan. A higher credit score means better loan terms.

There are various types of credit models in existence which are used to get credit scores for borrowers.

FICO Scoring Model **is a** model considered the most reliable and has the best track record. It has been modified over time to take into account the changing factors. Various FICO models exist, but regardless of the type, the factors considered in arriving at the credit score remains the same. These include payment history, credit utilization, credit history, types of credit and new credit. The “classic” FICO scoring model gives consumers a number between 300 and 850. A score under 600 is considered poor. A score above 740 is considered excellent. In between is average to above average

Vantage score model looks at familiar data like timely pay, low credit balances avoiding new credit obligations, bank accounts to calculate a credit score. Vantage score 3.0 requires only a month of credit history to establish a score as opposed to six months needed for FICO and other models. This model ignores collections and relief for accounts negatively affected by natural disasters. The Vantage Score scoring scale that is similar as FICO's 300–850, but it includes a letter grade (A through F) to help you better understand your score.

Whilst there are a many credit rating models used to ascertain a one's credit score, there are basically two distinct types of scoring models that can be confirmed methodically.

A bank or credit reference bureau will either use a judgemental or statistical scoring model. Whichever model one chooses, in the end the credit rating result will vary as well.

For a statistical scoring model it employs multiple factors from one or a number of credit rating agencies, then assigns predetermined weights to each factor in the model and then correlate them. The model does not take into consideration the individual biases or previous experiences of any credit officials.

A judgmental scoring model takes into consideration a client's financial statement, repayment history, available bank information and even the credit official's personal experience in administration of its previous services and products. By including these factors in a borrower's credit history, a subjective judgment is given more weight in establishing the credit score.

## **2.5 Empirical Review**

Several studies have been done in regard to credit risk management on loan portfolio. Pyle (1997) undertook a study on credit risk management and argued that there is a need to follow the rules



and regulations of measuring risk and capital by the financial institutions. Despite having to follow the strict regulations and guidelines it is not enough to come up with a credible and quantitative technique of risk management. In addition to the risk management system managers have to measure risk well in order to invest resources effectively with the best possible returns and at acceptable risk. Moreover, the impact of anticipated losses should be maintained within the levels imposed by the available liquidity and various stakeholders such as investors, regulators and the customers. Systems should be put in place to evaluate positions and offer motivation to staff and departments to ensure prudent investment decisions.

Nagarajan (2011) carried out a study on the credit risk management practices applied by microfinance institutions in Mozambique observed that risk management was a continuous process that could be formulated normally in the course of operations and tested during turbulent times. The study also found out that there was a need to mitigate risks that may result in losses through effective portfolio management by having in place a sound institutional framework, qualified and competent personnel and ability to coordinate the stakeholders effectively. The banks should take appropriate credit risk management steps to minimize financial losses arising from poor allocation of loans and inappropriate loan recoveries. Matu (2008) also examined the sustainability and profitability of microfinance institutions in Kenya and found out that the key challenges faced are the inefficiency and ineffectiveness in terms of offering of services.

Keeton and Morris (1987) investigated the relationship between loans which are not performing and credit risk management a study of 2470 United States commercial banks between 1979-1985. The study revealed a significant positive relationship between appetite for risk and financial losses. Further research in this area within the banking sector which followed this study

have shown more or less similar findings on non performing loans. Haneef et al. (2012) carried out research on risk management effect on loans which are not performing. The research confirmed that inappropriate risk management increases the levels of loans which are not performing and have an adverse effect on financial performance by banks.

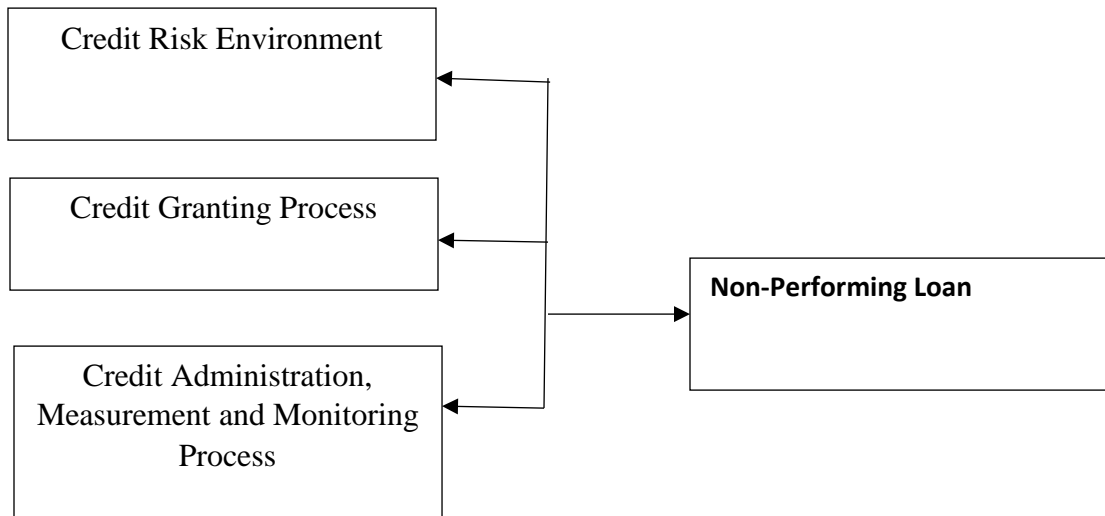
Rufai (2013) in his study examined the effect of credit risk management on the financial performance of Nigerian Banks a case of Union Bank PLC for the period 2006-2010. The study sought to assess how credit risk management effectiveness impacts on the performance by banks. Furthermore, his study aimed at establishing whether credit risk had an impact on the profitability and the effects of interest income on non performing loans. The study used the equity return on assets return which shows that effective and efficient credit risk management have a significant impact on banks performance. Bad loan amounts in relation to the total assets aimed to determine overall bank's credit risk exposure. Generally, credit risk management have an impact on the performance by banks and that there is need to emphasize on credit risk management in their credit lending decisions in order to generate and maintain high interest earnings.

Ahmed (2006) investigated on the effects macroeconomic and financial aspects on non performing loans. The study was carried out on 15 selected commercial banks in Bangladesh. The study focussed on three macroeconomic and financial factors, that is, credit terms, the size of the bank and macroeconomic shocks. The results are sufficient to support the hypothesis that the size of the bank and term of the loans has an adverse impact on the level of loans which are not performing.

Credit Risk Environment, section C contained questions on effective Credit Granting Process, while section D focused on the Credit Administration, Measurement, and Monitoring Process.

## 2.6 Conceptual Framework

**Figure 2.1: Conceptual Framework**



**Independent Variable**

**Dependent Variable**

**Source: (Researcher, 2016**

## 2.7 Summary of Literature Review

The basic function of banks is taking deposits and lending money. Banks usually charge a higher lending interest rate to the borrowers than the average interest rate it pays on customer savings hence their revenue. The Basel Committee on Banking Supervision(1999) notes that lending attribute to the single largest activity of the banks and that it poses an exposure to credit risk. Therefore, there is a need for bank globally to effectively identify, measure, evaluate and manage credit risk while mitigating risk exposures to acceptable low limits.

Researches were done however revolve around the causes of nonperforming loans, how the nonperforming loans come to existence, and its result on the bank's financial performance. Researches also revolve around how these loans affect Return on Equity (ROE) and ROTA. No studies show how credit risk management practices undertaken influence non-performing loans. This research aimed to contribute in filling gap on the relationship between credit risk management and loans which are not performing in Kenyan banks.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

Steps that facilitates study execution are covered here while satisfying the research objectives. This chapter outlines the research methodologies which were used in the study. It includes population which is being targeted, design of the research , description of the procedures used in sampling and sample to be used.and sampling procedures, data collection and procedures of analysing data.

#### **3.2 Research Design**

This is investigations' structure and outline of obtaining answers to questions of reearch. Study which is descriptive in nature aims at finding out the number of times with which an event or variables relations.This is according to Schindler & Cooper 2003. Descriptive research design will be used for this study. According to Cozby (2005), This design gathers phenomena status information to explain existence of things with respect to situations variables through obtaining answers from individuals regarding values, attitudes, perceptions and behavior.This study was suited to use the approach because data collection was through descriptions hence favourable in variable identification. Studies which are dwscriptive in nature are structured typically and formalized with questions and hypothesis which are stated in a clear manner.This is stated by Ngechu (2004).

### **3.3 Population and Sample of the Study**

Population comprise objects, events and individuals with similar attributes which are observable. This is according to Mugenda and Mugenda (2003). The banks which are licensed to carry out operations in Kenya were targeted. According to Central bank supervision report, forty three banks which are commercial operate in the country. The 43 banks, therefore, formed the target population of the study.

### **3.4 Data Collection Instruments**

According to Dudin (2013), data collection is the process of preparing and data collection sequentially from various sources for a specific aim. The data has already been organized, recorded and observed. The study performed data via questionnaire which has been set to meet the research aims. Questionnaires serve to obtain valuable information about study population. This is per Mugenda and Mugenda (2003). Each element is normally established to address specific aims of the study. A five point Likert scale was used. Ormrod & Leedy, 2011 states that is important in establishing a continuum of a behavior. The instrument was segregated to four sections which are different. Section A contained questions on the respondent characteristics, section B focused on the Credit Risk Environment, section C contained questions on effective Credit Granting Process, while section D focused on the Credit Administration, Measurement and Monitoring Process. Secondary data were also used.

### **3.5 Data Analysis**

Data analysis was done using Inferential and descriptive statistics. Descriptive statistics were employed to obtain mode, mean and frequency. Regression analysis was also used. The type of

analysis used to determine whether a dependant variable is predicted by an independent variable is regression analysis. This is according to Mugenda and Mugenda (1999) . SPSS Version 21 was employed in this study to analyze data. Study outcomes were presented in graphs, charts, figures and table form.

The model used was the linear regression model shown below

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

$Y$  is Non-performing loan levels,  $\beta_0$  is constant, and  $\varepsilon$  is model term error.

$X_1$  = Credit Risk Environment

$X_2$  = Credit Granting Process,

$X_3$  = Credit Administration, Measurement, and Monitoring Process

The findings were from analyzing the data collected from section B, which focused on the Credit Risk Environment, section C contained questions on effective Credit Granting Process, and section D focused on the Credit Administration, Measurement, and Monitoring Process.

### **3.6 Test of Significance**

The determine the sensitivity of each variable which is independent, t-ststistic and multi linear regression were employed to find out how each influences non performng loans. A level of 0.05 determines the statistical significance of study results, his implies that significance level must be less than 0.05. Furthermore, the size and direction of relation between independent and dependent variables at a confidence level of 95% used Pearson Product Moment Correlation Coefficients

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

The data obtained from the various respondents is analysed in this chapter. It also discusses the research findings on the relationship between Credit Risk Management and Non Performing loans in Kenyan Commercial Banks. Refinement of all completed questionnaires was done to ensure accuracy, uniformity, completeness and consistency. The response rate of 40 respondents was achieved. The adequate response is attributable to knowledgeability of the respondents in filling the questionnaires. A summary of the findings together with corresponding interpretation have been presented using graphs, frequencies, tables and percentages.

#### 4.2 Descriptive Analysis

##### 4.2.1 Gender of Respondents

There was a request to Respondents to confirm their gender and this is indicated in the table 4.1 below as shown below

**Table 4.1: Gender of Respondents**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Male	23	57.5
Female	17	42.5
<b>Total</b>	<b>40</b>	<b>100.0</b>

Source: (SPSS Output Data, 2016)



42.5 % of the respondents were female while 57.5% were male as confirmed in table Table 4.1. Majority of the managers of Kenya Commercial Bank are male although the difference is not significant enough to influence the study results.

#### 4.2.2 Age of Respondents

There was a request to Respondents to confirm their age and they confirmed and the results are confirmed in Table 4.2;

**Table 4.2 Age of Respondents**

<b>Age</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Below 25</b>	3	7.5
<b>26-35</b>	15	37.5
<b>36-45</b>	12	30.0
<b>46-55</b>	6	15.0
<b>Above 56</b>	4	10.0
<b>Total</b>	<b>40</b>	<b>100.0</b>

Source: (SPSS Output, 2016)

As shown on Table 4.2, most of the respondents were between ages of 26-35 years and 36-45 years as revealed by 37.5% and 30% of the respondents respectively. Fifteen percent of the respondents revealed that they were between 46-55 years of age. A further 10% were above 56 while 7.5% were below 25 years of age. This indicates all the age groups were represented.

#### 4.2.3 Level of Education

The level of education was requested from each respondent as confirmed in Table 4.3;

**Table 4.3 Level of Education**

<b>Level of Education</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Masters</b>	12	30.0
<b>Bachelors</b>	26	65.0
<b>Diploma</b>	2	5.0
<b>Total</b>	<b>40</b>	<b>100.0</b>

Source: (SPSS Output, 2016)

Major of the respondents have bachelors (26.0%), 30.0% of the respondents had Masters while 5.0% had a diploma. This confirms the fact that most of the respondents were knowledgeable to fill the questionnaires.

### **4.3 Discussion of Findings**

#### **4.3.1 Credit Risk Environment**

This research aimed at identifying Credit risk management at Kenyan Commercial banks. Likert scale was used where: 1= Very low level 2=Low Level 3=Moderate Level 4=High Level 5= Very high level. They y confirmed as shown below in table 4.4

**Table 4.4 Credit Risk Environment**

	<b>N</b>	<b>Mean</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Std. Deviation</b>
The banks' board senior bosses in our bank develops rules and procedures for determining, measuring, controlling and monitoring and the risk of credit	40	4.59	2	5	.503

The rules and outlines of credit risk developed controls the risk of credit in all the activities of the bank at the portfolio and individual levels.	40	4.36	1	5	.581
The executive approves the strategy and policies of credit risk of the bank.	40	4.32	1	5	.568
The bank subjects new credit activities and products to significant risk management controls and procedures undertaking or introducing them.	40	4.22	1	5	.646
Our bank singles out and controls the risk of credit in all its activities and products.	40	4.14	1	5	.834
The bank's strategy of credit risk represents the risk tolerance of the bank	40	4.12	1	5	.867

Source: (SPSS Output, 2016)

As shown in the table above, it was indicated by the respondents that senior management in bank develops rules and regulations for identification, measurement, keeping a close eye and managing credit risk to a very high level with a mean of 4.59. The respondents put across the fact that the commercial banks in Kenya perform to a high extent; the risk of credit procedures and policies developed takes care of the risk of the portfolio and individual credit risk in all the activities of the bank(mean of 4.36), the executive approves banks policies and strategies of credit risk (mean of 4.32), and the bank subjects new credit activities and products to enough risk management controls and procedures before introduction or undertakings(mean of 4.22).They also indicated that the banks singles out and controls credit risk existing their activities and

products (mean of 4.14) and the bank's strategy on credit risk strategy reflect its tolerance for risk (mean of 4.12) to a great extent.

#### 4.3.2 Sound Credit Granting Process

Respondents were asked to indicate on the sound credit granting process at Commercial banks in Kenya. Likert scale was used where: 1= strongly disagree 2= Disagree 3= undecided 4= Agree 5= strongly Agree. They indicated as shown in Table 4.5 below;

**Table 4.5 Sound Credit Granting Process**

	<b>N</b>	<b>Mean</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Std. Deviation</b>
Our bank has a clearly established process for approving new and re-financing of existing credits	40	4.66	2	5	.582
Our bank has established overall credit limits both at individual borrowers and counterparties level	40	4.42	2	5	.589
All credit grants must be made between a willing bank and a willing borrower.	40	3.77	1	5	1.230
Our bank must operate within credit granting criteria which is well defined and sound	40	3.69	1	5	1.311

Source: (SPSS Output, 2016)

From the findings, respondents strongly agreed that the Commercial banks of Kenya have a process which is established clearly to approve and refinance credits which already exists with a mean of 4.66. They agreed that the banks had established total limits of credit limits for counterparties and individual borrowers (mean of 4.42), credit grants of credit must be between a

willing borrower and willing bank (arm’s-length basis) (mean of 3.77), and that the operations of the banks must operate within criteria which is well defined and sound (mean of 3.69).

### 4.3.3 Credit Administration, Measurement and Monitoring Process

Respondents were asked to indicate on the Credit Administration, Measurement and Monitoring Process in Kenyan banks which are Commercial and the response are in the table below;

**Table 4.6 Credit Administration, Measurement Monitoring Process**

	N	Mean	Minimum	Maximum	Std. Deviation
Information on the components of portfolio of credit should be provided by the management information system .	40	4.25	2	5	.589
The condition, adequacy of provisions and reserves of each credit is monitored by a system of our	40	3.90	1	5	1.147
Our bank has techniques of analysis and systems of information used in measuring risk of credit inherent in all activities off and on balance sheet.	40	3.87	1	5	1.269
In the processing of analyzing credit portfolios and individual credits, our bank considers changing economic conditions	40	3.65	1	5	1.329
The rating system of rating is consistent with complexity nature and size of the banks’ activities	40	3.59	1	5	1.382

Source: (SPSS Output, 2016)

The respondents agreed that the system of information management should provide enough information on credit portfolio management (mean of 4.25), Reserves and provisions adequacy

determination, individual credits determination are monitored by a banks' system which is in place (mean of 3.90), and the bank have systems of information and techniques of analysis used to determine the level of credit probable in off-and on activities of the balance sheet. (mean of 3.87). The respondents also agreed that the Commercial Banks considers future probable economic changes when determining portfolio and individual credits (mean of 3.65), and the system of rating is persistent with complexity, volumes and kind of the activities of bank (mean of 3.59).

#### 4.4 Regression

In order to determine the significance and connection between Risk Management of credit and Non Performing loans in Kenyan banks which are Commercial , multiple regression analysis was used to conduct the study. Regression analysis results were presented using regression model summary, analysis of variance (ANOVA) and beta coefficient tables.

**Table 4.7 Model summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.653 <sup>a</sup>	.727	.248	.436

Source: (SPSS Output, 2016)

The determination coefficient gives an explanation of the degree to which dependent variable variations (Non Performing Loans) can be justified independent variable variations

From the table above, the value of  $R^2$  is 0.311, meaning 31.1% of variance in independent variables has been explained.

The **ANOVA** table below explains the suitability of the regression equation in predicting the variable which is dependent.

**Table 4.8 ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	142.368	7	20.338	6.256	.013
	Residual	26.009	8	3.251		
	Total	168.377	15			

Source: (SPSS Output, 2016)

The null hypothesis is contained in the F-test. It confirms that the relationship which is linear doesn't exist between the variables. With  $F(7, 8) = 6.256$  and 15 degrees of freedom, the significance of the test is high. ( $p = 0.013 < 0.05$ ) hence null hypothesis rejection. We therefore summarize that a relationship which is linear exist between our models variables. (i.e. regression model is a good fit of the data). Enough proof exists, which enables us to come to a conclusion that relevant relationship which is linear exists between loans which are not performing loans and management of credit risk.

**Table 4.9 Regression Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t Sig.	
		B	Std. Error	Beta		
1	(Constant)	3.219	.437		5.264	.000
	Credit Risk Environment	.416	.329	.468	1.421	.002
	Credit Granting Process	.356	.296	.364	1.268	.017
	Credit Administration, Measurement and Monitoring Process	.017	.328	-.103	-.336	.000

a. Dependent Non-performing loan

Source: (SPSS Output, 2016)

The multiple regression equation is shown below

$$Y = 3.219 + 0.416X_1 + 0.356X_2 + 0.017X_4 + \varepsilon$$

Where  $Y$  is the Non-performing loan,  $\beta_0$  is constant, and  $\epsilon$  is the error term of the model

$X_1$  = Credit Risk Environment

$X_2$  = Credit Granting Process

$X_3$  = Credit Administration, Measurement and Monitoring Process

Positive effects were reported on process of monitoring and measurement, credit risk environment and Credit Granting Process. This signifies that a growth in any of the variables result to Non-performing loans growth. Moreover,  $NPL = 3.219$  if all the variables equal zero.

#### **4.5 Interpretation of findings and Discussions**

The results of the research indicates that most banks have implemented credit risk management strategies to reduce the loans which are not performing. Respondents indicated that Kenyan Banks have developed procedures and rules to single out, measure, keeps a close eye and regulate the risk of credit. The credit risk rules and regulations developed reduces the risk of credit in the portfolio and individual levels of credit in the activities of the bank. The study also found that the bank's executive approves the strategy of credit risk and rules of the banks credit risk. The Commercial Banks in Kenya subjects new credit activities and products to enough risk management controls and processes before introduction or undertaking.

The results indicate that Kenyan banks, have a straight forward procedure for authorizing new and re-financing of existing credits and have established overall credit limits both at individual borrowers and counterparties. The study revealed that all credit grants must be between willing borrower and the banks agreement and that the banks operates within a healthy credit granting criteria which is well defined.



The findings also confirmed that system of information management provides significant information on credit portfolio components and the banks have a structure used to monitor the state of portfolio and individual credits and determination of reserves and provisions adequacy.. The bank have systems of information systems and techniques of analysis that aide management in measuring the risk of credit in all off and on balance sheet activities. The Commercial Banks in Kenya considers future economic conditions in appraising portfolio and individual credits and system of rating is consistent with complexity, nature and size of the activities of the bank.

The findings agreed with Cuthberston and Nitzsche (2003) who revealed that the technology of risk management has been modernized overtime. The ease with which information flows and the complex nature of financial markets across enables banks to recognize, assess, control and regulate risk differently from what used to in previous years. The software of credit modecurrently in place is Basel II Accord. Appropriate Capital adequacy requirements and modelling of credit risk building has been drove by the accord. Banks need to determine how to effectively compete in the market, has to and optimal resource allocation. Trading off of risk occurs in a competitive market hence allowing maximization of portfolio and credit risk transfer. Banks should have information about management of risk for all the activities, monitoring of economic capital, loan pricing and marginal risk adjusted contribution (Cuthberston & Nitzsche, 2003).

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

Major findings of the study are summarized in this chapter. This research sought to find out Credit risk management relationship with loans which are not performing in Kenyan commercial banks.. It also recommends policy making and further studies by relevant authorities. Primary data was collected through questionnaires. The questionnaires were made up of open ended and closed and questions which the researcher administered. The study employed primary and secondary data.

#### 5.2 Summary of Findings

The Credit Risk Environment of Kenyan commercial banks was studied. The respondents indicated that senior management in bank develops procedures and rules for singling out, controlling, monitoring and measuring credit risk to a very high level with a mean of 4.59. The results confirmed that the commercial banks in Kenya perform to a high extent; the credit risk rles and regulations developed sorts out credit risk issues in activities bank for both portfolio and individual levels (mean of 4.36), the executive approves the strategy and policies of the banks' credit risk (mean of 4.32) and the bank subjects new credit activities and products to adequate risk management controls and procedures before undertaking or introduction (mean of 4.22).They also indicated that the banks singles out and controls credit risk inherent in all activities and products and activities (mean of 4.14) and the banks credit risk strategy represents the tolerance of the risk by the banks (mean of 4.12) to a high extent.

The study also sought to establish the sound credit granting process in Kenyan commercial Banks. From the results, respondents strongly agreed Commercial banks of Kenya has a clearly

established process for approving new and re-financing of existing credits with a mean of 4.66. They agreed that the banks have established overall limits of credit both at counterparty and individual borrowers level (mean of 4.42), all credit grants must be made between a willing bank and borrowers (mean of 3.77), and that operations of banks should be within well defined and sound loan extensions(mean of 3.69).

The study aim to single out credit monitoring, administration and measurement process

The respondents agreed that the system of information management should provide significant credit portfolio composition (mean of 4.25), the quantity of provisions and reserves of the banks are determined through monitoring system. (mean of 3.90), and the bank have systems of information and technical analysis that aid management in measuring persistent credit risks in off and on balance sheet activities(mean of 3.87). The respondents also confirmed commercial banks considers future economic conditions of individual and portfolio credits. (mean of 3.65), and the system of rating is in line with complexity, size and nature of the activities of the bank (mean of 3.59).

Regression analysis revealed a positive relationship ( $r = 0.653$ ). Moreover, the dependent variable changes are attributable to by 72.7% variations in independent variables. The model is thus significant implying that it's fit and robust. Positive effects were reported on Credit Risk Environment, monitoring process, measurement, credit administration and Credit Granting Process. Analysis of Variance (ANOVA) was performed and the P-Value =  $0.013 < 0.05$  hence rejection of null hypothesis and we have enough evidence to rule a relationship which is linear exists between loans which are not performing and Credit Risk Management.

### **5.3 Conclusion**

This research concluded that Kenyan Commercial Banks have developed rules and regulations for credit risk identification, measurement, control and monitoring. The credit risk procedures and policies developed sorts portfolio and individual levels of credit risk in all the activities of the bank. The study also concluded that the executive approves the policies and strategies of the risk of credit in the bank. The Kenyan banks subjects new credit activities and products to significant controls and guidelines of risk before being undertaking or introduction.

The study also concluded that Commercial banks of Kenya have a straightforward process for new and re-financing of existing credits approval and have established overall credit limits both at individual borrowers and counterparties. The study revealed that all credit grants must be made between willing bank and borrower which operates in a clear lending criteria.

From the findings, the study also concluded that system of information provides significant information on the credit portfolio composition of banks. They also monitor reserves and provisions adequacy conditions of the respective credits. The bank have system for information and technical analysis used to measure risks existing in the activities of the balance sheet. The Kenyan Commercial Banks considers future economic conditions in determining respective credits. The system of rating is in line with the complexity, magnitude and attributes of the activities of the banks.

#### **5.4 Recommendations**

The research recommends banks should use credit risk management techniques to evaluate the clients by reviewing the lending terms and conditions of the clients. The executive of the bank should lay the strategy, guidelines and rules of credit risk management. The department of Risk management should be created on business and portfolio line basis, to adopt an inclusive holistic approach in determining the total risk exposure and profile management of banks

#### **5.5 Limitations of the Study**

The respondents had very tight schedules and they needed much time to complete the questionnaires. Issuing the questionnaires in good time reduced the limitation.

Getting information which is accurate was a major difficulty since most respondents were reluctant to share information. This was overcome by informing the respondents the importance of the study to the bank in order to win their will to respond and offer accurate information.

#### **5.6 Suggestions for Further Research**

This research should be used to initiate more studies on the same subject. Credit Risk management in add value to the banking industry as it improves education and increases economic growth.

The study also suggest that further study should be done considering all financial institutions. This study only focused on Kenyan Commercial banks hence further study on effects of credit risk management on loans which are not performing need to be done in on other financial institutions.

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## APPENDICES

### Appendix I- Questionnaire

Dear respondent,

This questionnaire is intends to collect data relating to relationship between Credit Risk Management and Non Performing Loans in Commercial Banks in Kenya. Kindly respond to all questions to aid the process. Data obtained will be treated will be utilized for purposes of academic and treated with confidentiality of very high level.

#### SECTION A: Demographic Information

1. What is your gender?            Male                          Female
2. How old are you?

Age (years)	Below 25	26-35	36-45	46-55	Above 56
Response					

3. What is your highest level of education?  
Masters     Bachelors     Diploma     Certificate     Secondary Level   
Others (Please Specify) .....
- 4.

#### SECTION B: Credit Risk Environment

Please indicate on the level to which you agree with the following statements.

Use the following scale: 5= Very high level 4= High level 3= moderate level 2= low level 1= Very low level

No.	Credit Risk Environment	1	2	3	4	5
<b>1</b>	The banks strategy of the risk of credit risk reflects its risk tolerance					
	The board of directors approves the banks strategy and policies of credit risk					

	The senior management in our bank develops policies rules and regulations used to determine, measure, monitor, identify and control credit risk.					
	The credit risk procedures and policies developed address portfolio and individual levels of credit risk in all activities of the bank					
	Our bank identifies and manages the risk of credit existing in all its activities and products.					
	The bank subjects new credit activities and products to significant risk management controls and procedures before undertaking or introduction.					

**SECTION C: Sound Credit Granting Process**

The following scale will be applicable: 5= strongly agree 4= agree 3= undecided 2= disagree 1= strongly disagree

No.	Sound Credit Granting Process	1	2	3	4	5
1	Our bank must operates within a criteria which is defined well and is sound.					
2	Our bank has established limits of credit which are overall for counterparties and individual levels.					
3	Our bank has a process which is established clearly to approve and refinance credits which are existing.					
4	Any credit extension must be on arm's-length basis.					

**SECTION D: Credit Administration, Measurement and Monitoring Process**

Use the following scale: 5= strongly agree 4= agree 3= undecided 2= disagree 1= strongly disagree

No.	Credit Administration, Measurement and Monitoring Process	1	2	3	4	5
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<b>1</b>	Our bank has a system used to determine and monitor how adequate the reserves and provisions are and individual credits					
<b>2</b>	The system of rating is in line with the complexity, size and nature of the activities of the banks.					
<b>3</b>	Our bank have system of information and techniques of analysis that assist management in measuring risk of credit existing in activities which are off and on balancesheet					
<b>4</b>	The system of information for management should avail significant information on credit portfolio composition.					
<b>5</b>	Our bank considers economic conditions changes when determining portfolio and individual credits.					

## **Appendix II: Licensed Commercial Banks in Kenya**

1. African Banking Corporation
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank of Kenya
6. Cfc Stanbic bank
7. Chase bank
8. Charter House Bank (Under statutory Management)
9. Citibank
10. Credit Bank
11. Co-operative bank of Kenya
12. Commercial Bank of Africa
13. Consolidated bank
14. Development bank of Kenya
15. Diamond Trust bank
16. Dubai bank
17. Eco bank
18. Equatorial Commercial Bank
19. Equity bank
20. Family bank
21. Fidelity Commercial bank
22. Fina bank
23. First Community Bank
24. Giro commercial bank
25. Guardian bank
26. Gulf African Bank
27. HabibA.G.Zurich

28. Habib bank
29. Imperial Bank
30. Investment and Mortgages bank
31. K-Rep bank
32. Kenya Commercial bank
33. Jamii Bora Bank
34. Middle East bank
35. National bank of Kenya
36. National Industrial Credit bank
37. Oriental Commercial bank
38. Paramount Universal bank
39. Prime Bank
40. Standard Chartered bank
41. Trans-National bank
42. UBA Kenya Limited
43. Victoria Commercial bank

Source: Central Bank of Kenya (CBK) Website