

**THE RELATIONSHIP BETWEEN CREDIT RISK MANAGEMENT AND  
NON-PERFORMING LOANS: A CASE STUDY OF KCB**

**FAITH WACHIRA  
NORINE ACHIENG**


**A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS IN  
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD  
OF THE DEGREE OF BACHELOR OF COMMERCE IN GREYSON  
UNIVERSITY**

**NOVEMBER, 2023**


## DECLARATION

### DECLARATION

We hereby declare that this research project is our original work and has not been presented in any other university for an award.


Sign  Date 6/12/2023.

Faith Wachira

Sign  Date 6/12/2023

Norine Achieng

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

Sign  .....

Date 6/12/23 .....

Madam Irene Kinyua

Department: School of business

Gretsa University

## **DEDICATION**

We dedicate this work to our family for their moral support, encouragement and understanding.

To the Almighty God for His unceasing blessings without which it is impossible to accomplish anything.

## **ACKNOWLEDGEMENT**

We would like to extend our deepest gratitude to God for his guidance, good health, wisdom and the energy he accorded us while undertaking the study. We would also like to single out our supervisor, Madam Irene Kinyua who dedicated a lot of time and effort to our work. This undertaking would not have been possible without her sincere comments, advice, criticism suggestions and encouragement. She has inspired us to look at all things critically and keep an open mind. . We owe our deepest gratitude to our family for their encouragement and support, moral and material throughout the course.

We would also like to thank the University for taking the time and affording us the opportunity to acquire the knowledge required to fulfil this project. Lastly, We are grateful to all those who in one way or another assisted us in being able to conclude this project.

## TABLE OF CONTENTS

<b>DECLARATION</b> .....	<b>ii</b>
<b>DEDICATION</b> .....	<b>iii</b>
<b>ACKNOWLEDGEMENT</b> .....	<b>iv</b>
<b>LIST OF TABLES</b> .....	<b>ix</b>
<b>LIST OF FIGURES</b> .....	<b>xi</b>
<b>LIST OF ABBREVIATIONS</b> .....	<b>xii</b>
<b>ABSTRACT</b> .....	<b>xiii</b>
1.1 Background of the Study .....	1
1.1.1 Credit Risk Management .....	2
1.1.2 Non-Performing Loans .....	3
1.1.3 Effects of Credit Risk Management on Non-Performing Loans.....	5
1.2 Statement of the Problem.....	6
1.3 Conceptual Framework.....	8
1.3 Objective of the Study .....	9
1.3.1. General Objective .....	9
1.3.2 Specific Objectives .....	9
1.4 Research Questions.....	9
1.5 Significance of the Study .....	10
1.5.1 Financial institutions.....	10
1.5.2 Policy makers.....	10
1.5.3 Academia .....	10
1.6 Limitation of the Study.....	10
<b>CHAPTER TWO: LITERATURE REVIEW</b> .....	<b>12</b>
2.1 Introduction.....	12

2.2 Theoretical Review .....	12
2.2.1 Modern Portfolio Theory .....	12
2.2.2 Capital Asset Pricing Theory .....	14
2.3 Determinants of Non-Performing Loans.....	15
2.3.1 Operating under a Sound Credit Granting Process .....	16
2.3.2 Maintaining an Appropriate Credit Administration, Measurement and Monitoring Process .....	16
2.4 Empirical Review.....	17
2.4.1 Credit Granting .....	17
2.4.2 Credit Administration .....	20
2.4.3 Credit Measurement and Monitoring .....	21
2.5 Summary of the Empirical Review .....	22
<b>CHAPTER THREE: RESEARCH METHODOLOGY .....</b>	<b>24</b>
3.1 Introduction.....	24
3.2 Research Design.....	24
3.3 Study area .....	24
3.4 Target population .....	24
3.5 Sample size and sampling technique .....	25
3.6 Data Collection Instrument .....	25
3.7 Validity and Reliability of the Instrument .....	26
3.8 Data Analysis and Presentation.....	26
3.8.1 Analytical Model .....	27
3.8.2 Test of Significance .....	27
<b>CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION .....</b>	<b>29</b>
4.1 Introduction.....	29

4.1.1 Response Rate of the Study .....	29
4.2 Respondent`s social demographic information.....	30
4.2.1 Gender.....	30
4.2.2 Age Bracket .....	30
4.2.3 Highest qualification achieved.....	31
4.2.4 Current Designation within the Bank.....	31
4.3 Sound Credit Granting Process and effect on Non-performing loans.....	32
4.3.1 Whether Credit Risk Management System Operate under a Sound Credit Granting Process .....	32
4.3.2 Extent of Agreement with Statements Relating to Operating Credit Process.....	33
4.3.3 The Extent that a Sound Credit Granting Process Affects Non-performing loans .....	34
4.4 Credit Measurement and Administration process.....	35
4.4.1 Extent that the Bank Maintains an Appropriate Credit Administration Process.....	35
4.4.2 The Challenges Experienced in Maintaining Appropriate Credit Measurement and Administration Process in the Bank.....	36
4.4.3 The Extent Credit Measurement and Administration Influence the Level of Non-performing Loans.....	36
4.4.5 The Extent that Credit Risk Management Practices Adopted by the Bank Influence the Level of Non-performing Loans .....	38
4.5.2 Extent to which effective credit risk management requires a reporting and review structure to ensure that risks are effectively identified and assessed and that appropriate controls and responses are in place. ....	39
4.5.3 Risk Monitoring in Credit Risk Management.....	40
4.6 Regression Analysis.....	41
4.6 Interpretation of the Findings.....	44
<b>CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS ..</b>	<b>46</b>
5.1 Introduction.....	46
5.2 Summary .....	46

5.3 Conclusion .....	48
5.4 Recommendations for Policy .....	49
5.5 Recommendations for Further Research.....	49
<b>REFERENCES.....</b>	<b>50</b>
<b>APPENDICES .....</b>	<b>55</b>
<b>Appendix I: Questionnaire.....</b>	<b>55</b>



## LIST OF TABLES

Table		4.1:		Age
Bracket.....				30
Table	4.2	Response	rate	of the
study.....				32
Table 4.3: Credit Risk Management System Operate Under a Sound Credit Granting Process...33				
Table 4.4: Extent of agreement with statements relating to operating credit process.....34				
Table 4.5: Extent a sound credit granting process affects non-performing loans.....35				
Table	4.6:	Maintaining	an appropriate	credit administration
Process.....				36
Table	4.7:	Credit Risk	Management	and Level of
Loans.....				37
Table 4.8: Credit Risk Management Practices and Level of Non-performing Loans.....39				
Table	4.9:	Agreement	on Risk	Monitoring in
Management.....				40
Table 4.11: Extent to which effective credit risk management requires a reporting and review structure to ensure that risks are effectively identified and assessed and that appropriate controls and responses are in place.....56				
Table	4.10:	Agreement	on Risk	Monitoring in
Management.....				57
Table	4.12:	Regression	Analysis	Model
.....				58
Table	4.13:	Analysis	of	Variance
Table.....				59
Table	4.14:			Coefficients
Results.....				60

## **LIST OF FIGURES**

Figure 4.1: Gender of the Respondents.....	29
Figure 4.2: Highest Level of Education.....	31
Figure 4.3: Current Designation within the Bank.....	31

## **LIST OF ABBREVIATIONS**

<b>CA</b>	Capital Adequacy
<b>CAPM</b>	Capital Asset Pricing Theory
<b>CAR</b>	Capital Adequacy Ratio
<b>CBK</b>	Central Bank of Kenya
<b>GDP</b>	Growth Domestic Product
<b>LA</b>	Loans and Advances
<b>LLP</b>	Loan Loss Provisions
<b>MFI</b> s	Micro Finance Institutions
<b>MPT</b>	Modern Portfolio Theory
<b>NPA</b>	Non-Performing Asset
<b>NPL</b> s	Non-Performing Loans
<b>SACCO</b> s	Savings and Credit Co-operatives
<b>SPSS</b>	Statistical Package for Social Sciences
<b>US</b>	United States

## **ABSTRACT**

The study investigated the relationship between credit risk management and the level of non-performing loans in Kenya Commercial Bank in Thika. The study adopted a descriptive research design. Through use of descriptive and inferential statistics, this design was deemed the best design to fulfill the objective of the study. The target population of the study was 43 credit officials in Kenya Commercial Bank in Thika. The census method was used for this study since the population was small and variable and the institutions are easily accessible. In order to achieve the set objectives of the study, both primary and secondary data was used. The primary data was collected using a questionnaire. The questionnaire had both closed and open-ended questions. The closed ended questions enabled the researcher to collect quantitative data while open-ended questions enabled the researcher to collect qualitative data. The secondary data was obtained from the annual reports of the bank. Data collected covered a period of 5 years, from 2017-2022. The study concluded that most banks have a sound credit risk management system and the senior management of banks develop policies and procedures for identifying, measuring, monitoring and controlling credit risk. The study further concludes that Kenya Commercial Bank operates under a sound credit risk management process that reduces loan default which leads to low non-performing loans. The study also concluded that the bank takes into consideration potential future changes in economic conditions when assessing individual credits and their credit portfolios. For proper credit management process, the bank should have management information systems that provide adequate information on the composition of the credit portfolio. The study recommended that the bank must respond to this by combining this information with different credit risk management techniques used to evaluate the clients by reviewing the lending terms and conditions of the clients. The overall responsibility of risk management vests in the bank's board. The board should outline risk management strategy and formulate well-defined policies and procedures. Risk management department should be made on portfolio or business line basis, to adopt a holistic approach judging the overall risk exposure in assessing and managing risk profile of the bank.

## **CHAPTER ONE: INTRODUCTION**

### **1.1 Background of the Study**

Risk management is recognized in today's business world as an integral part of good management practice (Haneef et al., 2012). It entails the systematic application of management policies, procedures, processes and practices to the tasks of identifying, analyzing, assessing, monitoring and managing risks. Financial institutions are exposed to various risks in pursuit of their business objectives; the nature and complexity of which has changed rapidly over time. The failure to adequately manage risks exposes financial institutions to adverse effects on their financial performance including reduced profitability and liquidity problems, ultimately rendering them unsuccessful in achieving their strategic business objectives. In the worst case, inadequate risk management may result in circumstances so catastrophic in nature that financial institutions cannot remain in business (Haneef et al., 2012).

Many researches on the cause of bank failures find that asset quality is a statistically significant predictor of insolvency (Barr & Siems, 1994, Demirguc-Kunt and Detragiache, 1998), and that failing financial institutions always have high level of non-performing loans prior to failure. It is argued that the non-performing loans are one of the major causes of the economic stagnation problems. Each non-performing loan in the financial sector is viewed as an obverse mirror image of an ailing unprofitable enterprise. Therefore the eradication of non-performing loans is a necessary condition to improve the economic status. If the non-performing loans are kept existing and continuously rolled over, the resources are locked up in unprofitable sectors; thus, hindering the economic growth and impairing the economic efficiency (Biabani et al. 2012).

Credit risk is the potential that a bank borrower or counterparty fails to meet the obligations on agreed terms. There is always a possibility that a bank borrower will not repay his or her loan as obligated resulting into credit risk exposure or financial losses or otherwise known as non-performing loans. These losses could take the form outright default or alternatively, losses from changes in portfolio value arising from actual or perceived deterioration in credit quality that is short of default (Nocco&Stulz, 2010).

### **1.1.1 Credit Risk Management**

Basel committee define credit risk as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms (Basel, 2015). Credit risk management is a structured approach to managing uncertainties through risk assessment, developing strategies to manage it, and mitigation of risk using managerial resources. The strategies include transferring to another party, avoiding the risk, reducing the negative effects of the risk, and accepting some or all of the consequences of a particular risk. The process of risk management is a two-step process. The first is to identify the source of the risk, which is to identify the leading variables causing the risk. The second is to devise methods to quantify the risk using mathematical models, in order to understand the risk profile of the instrument. It is crucial for banks to have comprehensive risk management framework as there is a growing realization that sustainable growth critically depends on the development of a comprehensive risk management framework (Greuning& Iqbal, 2010).

Credit risk management forms a key part of a company's overall risk management strategy. Weak credit risk management is a primary cause of many business failures. Many small businesses, for example, have neither the resources nor the expertise to

operate a sound credit management system (Richardson, 2016). The goal of credit risk management is to maximize a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Banks should also consider the relationships between credit risk and other risks. The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization (Hull, 2011). The main techniques for measuring credit risk include: credit scoring, development of a credit policy, assessment of credit exposure, determination of credit risk premium and credit ratings.

Credit risk is important in monetary and credit institution because resources applied for facilities are in debt of monetary institution (bank) to its shareholders and if the money doesn't have flow, power of giving credit and shareholders' capital return reduces (Jamaat&Asgari, 2010). The purpose of credit risk management is that by maintaining of credit risk in acceptable range; the ratio of return level banking facility to risk be maximized. Therefore, responsibilities in bank should be determined clearly thereby ensure that bank's policies and procedures in risk management are managed effectively.

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

Non-performing loans (NPLs) are loans that are in default or close to being in default. Many loans become non-performing after being in default for 90 days, but this can depend on the contract terms. A loan is non-performing when payments of interest and principal are past due by 90 days or more, or at least 90 days of interest payments have been capitalized, refinanced or delayed by agreement, or payments are less than 90 days

overdue, but there are other good reasons to doubt that payments will be made in full (International Monetary Fund, 2011).

Prudential Guidelines (2014) defines non-performing loan as a loan that is no longer generating income. The guidelines state that loans are non-performing when: principal or interest is due and unpaid for 90 days or more; or interest payments for 90 days or more have been re-financed, or rolled-over into a new loan.

The literature identifies two sets of factors to explain the evolution of NPLs over time. One group focuses on external events such as the overall macroeconomic conditions, which are likely to affect the borrowers' capacity to repay their loans, while the second group, which looks more at the variability of NPLs across banks, attributes the level of NPLs to bank-level factors (Klein, 2013). For instance, Berger and DeYoung (1997), who studied the links between NPLs, cost efficiency and capitalization in the US commercial banks for the period 1985–94, found a two-way causality between cost efficiency to NPLs. While they explained the causality from NPLs to cost efficiency as “bad luck,” driven mainly by deterioration in macroeconomic conditions, they explained this causality from cost efficiency to NPLs through the hypothesis of “bad management.” In particular, this hypothesis argues that low cost efficiency is a signal of poor management practices, thus implying that as a result of poor loan underwriting, monitoring and control, NPLs are likely to increase.

An alternative hypothesis (“skimping”), that was also proposed by Berger and DeYoung (1997) suggests a possible positive causality between high cost efficiency and NPLs. In



particular, they suggest that high cost efficiency may reflect little resources allocated to monitor lending risks and therefore may result in higher NPLs in the future.

Lastly, is the “moral hazard” hypothesis, which was discussed by Keeton and Morris (2012); they argue that banks with relatively low capital respond to moral hazard incentives by increasing the riskiness of their loan portfolio, which in turn results in higher non-performing loans on average in the future. Keeton and Morris (1987) indeed showed that excess loss rates were prominent among banks that had relatively low equity-to-assets ratio. The negative link between the capital ratio and NPLs was also found in Berger and DeYoung (1997), and Salas and Saurina (2010). Keeton and Morris (2012) argued that banks that tend to take more risks, including in the form of excess lending eventually absorbed higher losses. Their finding was supported by Salas and Saurina (2010) and Jimenez and Saurina (2013). This therefore shows that risks in the bank can result to or increase the level of non-performing loans.

### **1.1.3 Effects of Credit Risk Management on Non-Performing Loans**

Ekrami and Rahnama (2013), the high amount of NPLs represents high credit risk in today bank system and this encounters banks with market risks and liquidity risk. Although banks are trying to control the risks within the organization, but high percentage of this risk and its consequences for the future could not be ignored. NPLs create due to weak criteria of credit assays, ineffective policies, risk acceptance without regard to limitation of bankroll and wrong functional indicators (Morton, 2012).

Keeton and Morris (1987) present one of the earliest studies to examine or show the relationship between non performing loans and credit risk management. The authors

examined the losses by 2,470 insured commercial banks in the United States (US) over the 1979-85. Using NPLs net of charge-offs as the primary measure of loan losses. Keeton and Morris reported that commercial banks with greater risk appetite tend to record higher losses. Several studies which followed the publication of Keeton and Morris have since proposed similar and other explanations for losses/non-performing loans in banks. For instance a study by Haneef et al (2012) concluded that non-performing loans are increasing due to lack of risk management which threatens the profitability of banks.

## **1.2 Statement of the Problem**

Credit risk management is very important to banks as it is an integral part of the loan process. It maximizes bank risk, adjusted risk rate of return by maintaining credit risk exposure with view to shielding the bank from the adverse effects of credit risk. Banks are investing a lot of funds in credit risk management modeling (Jamaat&Asgari, 2010). Efficient management of credit risk is a part of comprehensive risk management method and the basic condition for long term success of each bank (Basel, 1999, 2015).

The liberalization of the Kenya banking industry in marked the beginning of intense competition among the commercial banks, which saw banks extend huge amounts of credit with the main objective of increasing profitability. According to Central Bank Supervision Report, (2005), many banks that collapsed in that time were as a result of the poor management of credit risks which was portrayed in the high levels of non-performing loans. Since 2005kenya commercial bank embarked upon an upgrading of their risk management and control systems (CBK, 2021). This was after the issuance of the Risk Management Guidelines (RMGs) in 2005 and the adoption of the Risk Based

Supervision approach of supervising financial institutions in 2005. This has also been necessitated by the drive to fully adopt Risk Based Supervision and to incorporate the international risk management best practices envisioned in the 25 Basel Core Principles for Effective Banking Supervision. Despite these new approaches in risk management in commercial banks in Kenya, it is not clear how the credit risk management practices adopted have impacted on the level on non-performing loans.

A study Haneef et al (2012) found out that non-performing loans are increasing due to lack of risk management which threatens the profitability of banks. A review of the local studies done in the study area shows that Gakure,Ngugi, Ndwiga and Waithaka, (2012) did a study on the effect of credit risk management techniques on the performance of unsecured bank loans employed commercial banks in Kenya; Kithinji (2010) did a study on credit risk management and profitability of commercial banks in Kenya; Muasya, (2013) conducted a study on the relationship between credit risk management practices and loans lesson. This therefore shows that there is no notable empirical evidence to show the relationship between credit risk management and the level of non-performing loans in commercial in Kenya. It is against this background therefore that the study seeks to fill that gap; the study will seek to answer the question; what is relationship between credit risk management and the level of non-performing loans in commercial banks in Kenya?

### 1.3 Conceptual Framework

The conceptual framework illustrates the interaction between independent variables and dependent variable in the study (Mugenda&Mugenda 2003). In this study, the independent variables are credit granting process, credit administration process, credit measurement and monitoring.

The conceptual framework is presented in the Figure 1.3

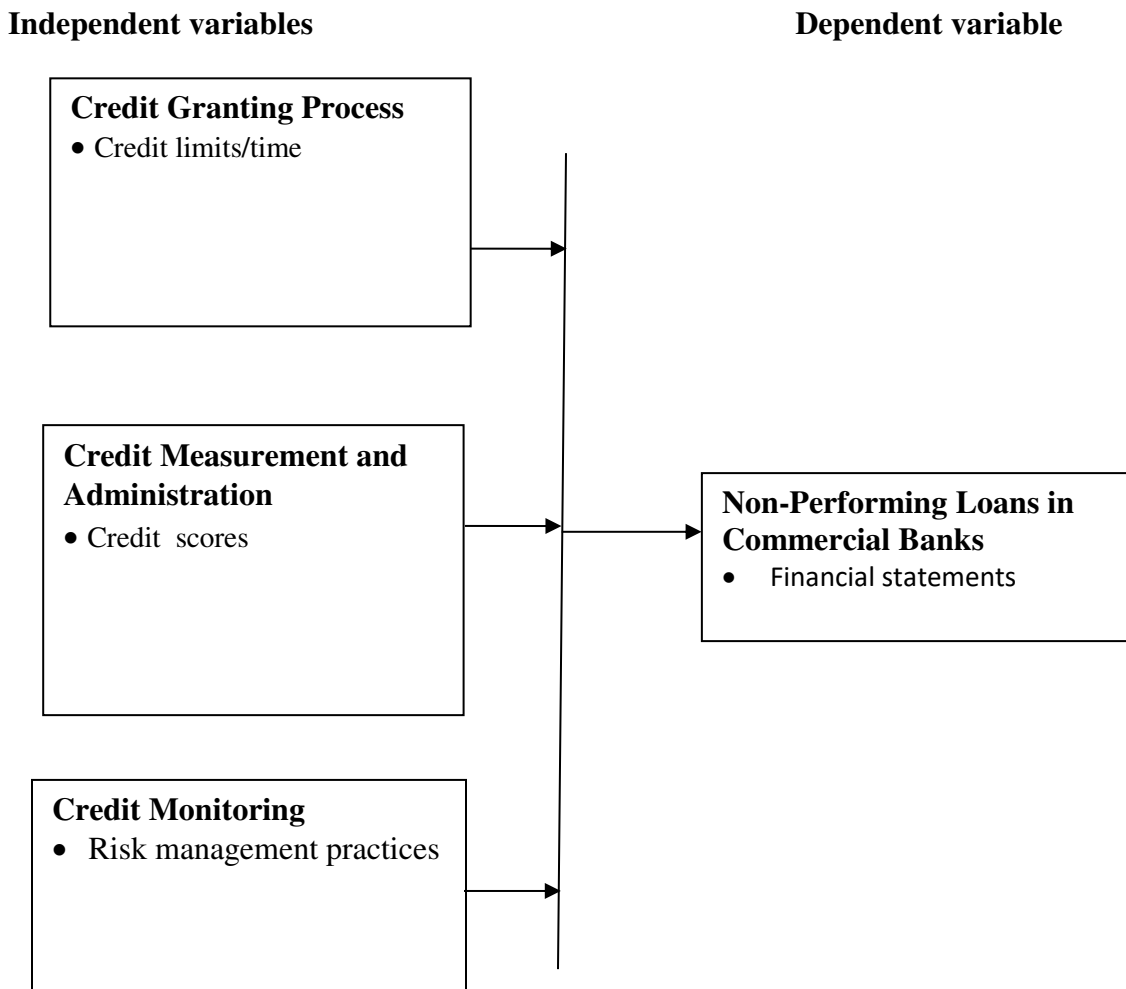


Figure 1.3 Conceptual Framework

### **1.3 Objective of the Study**

#### **1.3.1. General Objective**

To determine the relationship between credit risk management and the level of non-performing loans in KCB.

#### **1.3.2 Specific Objectives**

The study was guided by the following research objectives:

- i. To determine the relationship between credit granting process and the level of non-performing loans KCB.
- ii. To examine the relationship between credit administration and the level of non-performing loans in KCB.
- iii. To assess the relationship between credit monitoring process and the level of non-performing loans in KCB.

### **1.4 Research Questions**

The study sought to answer the following research questions

- i. What is the relationship between credit granting process and the level of non-performing loans in KCB.
- ii. What is the relationship between credit administration and the level of non-performing loans in KCB.
- iii. What is the relationship between credit monitoring process and the level of non-performing loans in KCB’

## **1.5 Significance of the Study**

### **1.5.1 Financial institutions**

This study was of value to KCB group in Thika as well as other financial institutions. By knowing the relationship that credit risk management has on non-performing loans, the management in these institutions would be able to make sound decisions on credit risk management in their institutions.

### **1.5.2 Policy makers**

This study may be important to the policy makers and specifically the central bank of Kenya and Kenya Bankers Association, as they would obtain knowledge of the credit risk management in KCB in Thika. They could therefore obtain guidance from this study in designing appropriate strategies and policies that may regulate the sector.

### **1.5.3 Academia**

The study provided information to potential and current scholars on credit risk management among KCB. The study would add value and expand the body of knowledge on risk management in KCB group and also identify areas of further study.

## **1.6 Limitation of the Study**

In carrying out this study, the researcher envisaged that some of the respondents could fail to cooperate for fear that the information may divulge strategic premises of their firm's strategic plans which form the pillar of competitive advantage. However, the researcher informed the respondents on the actual purpose of the study and also followed ethical procedures and ensured confidentiality so as to ensure that the respondents feel at ease to give data.

Another foreseen limitation was that some respondents were unable to complete the questionnaires objectively due to time constraints and pressure from work. Some of the respondents were also not willing to be subjected to other time constraining activities by participating in the study that they think that does not directly affect them. To address this, the study adopted 'drop and pick later' data collection method so as to give the respondents ample time to fill the questionnaires at their own free time.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter presented the literature review. It covers the theoretical review which discussed the theories that guide the study. It also discussed the empirical review where research work by other researcher and authors in the field under study were discussed. Lastly, a summary of the chapter is provided.

### **2.2 Theoretical Review**

The theoretical review sought to establish some of the theories that are attributed by other researchers, authors and scholars and are relevant to credit risk management. The study was guided by the modern portfolio theory, capital asset pricing theory and the Risk-Adjusted Return on Capital theory.

#### **2.2.1 Modern Portfolio Theory**

Modern Portfolio Theory (MPT) is a theory of investment which tries to maximize return and minimize risk by carefully choosing different assets (Markowitz, 1952). The Primary principle upon which Modern Portfolio Theory is based (MPT) is the random walk hypothesis which states that the movement of asset prices follows an Unpredictable path: the path as a trend that is based on the long-run nominal growth of corporate earnings per share, but fluctuations around the trend are random (Chandra &Shadel, 2013). Since the 1980s, banks have successfully applied modern portfolio theory (MPT) to market risk. Many financial institutions are now using value at risk (VAR) models to manage their interest rate and market risk exposures. Unfortunately, however, even though credit risk remains the largest risk facing most banks, the practical of MPT to credit risk has lagged (Margrabe, 2013).



Financial institutions recognize how credit concentrations can adversely impact financial performance. As a result, a number of sophisticated institutions are actively pursuing quantitative approaches to credit risk measurement, while data problems remain an obstacle. This industry is also making significant progress toward developing tools that measure credit risk in a portfolio context. They are also using credit derivatives to transfer risk efficiently while preserving customer relationships. The combination of these two developments has precipitated vastly accelerated progress in managing credit risk in a portfolio context over the past several years (Saunders & Cornett, 2011).

Traditionally, banks have taken an asset-by-asset approach to credit risk management. While each bank's method varies, in general this approach involves periodically evaluating the credit quality of loans and other credit exposures, applying a credit risk rating, and aggregating the results of this analysis to identify a portfolio's expected losses. The foundation of the asset-by-asset approach is a sound loan review and internal credit risk rating system. A loan review and credit risk rating system enable management to identify changes in individual credits, or portfolio trends in a timely manner. Based on the results of its problem loan identification, loan review, and credit risk rating system management can make necessary modifications to portfolio strategies or increase the supervision of credits in a timely manner (Saunders & Cornett, 2011).

While the asset-by-asset approach is a critical component to managing credit risk, it does not provide a complete view of portfolio credit risk, where the term risk refers to the possibility that actual losses exceed expected losses. Therefore to gain greater insight into credit risk, banks increasingly look to complement the asset-by-asset approach with a

quantitative portfolio review using a credit model. Financial institutions increasingly attempt to address the inability of the asset-by-asset approach to measure unexpected losses sufficiently by pursuing a portfolio approach. One weakness with the asset-by-asset approach is that it has difficulty identifying and measuring concentration. Concentration risk refers to additional portfolio risk resulting from increased exposure to a borrower, or to a group of correlated borrowers (Margrabe, 2013).

### **2.2.2 Capital Asset Pricing Theory**

Sharpe (1964) published the capital asset pricing theory (CAPM). Parallel work was also performed by Treynor (1961) and Lintner (1965). CAPM extended Harry Markowitz's portfolio theory to introduce the notions of systematic and specific risk. For his work on CAPM, Sharpe shared the 1990 Nobel Prize in Economics with Markowitz and Miller, (1961).

In such a simple world, Tobin's (1958) super-efficient portfolio must be the market portfolio. All investors will hold the market portfolio, leveraging or de-leveraging it with positions in the risk-free asset in order to achieve a desired level of risk. CAPM decomposes a portfolio's risk into systematic and specific risk. Systematic risk is the risk of holding the market portfolio. As the market moves, each individual asset is more or less affected. To the extent that any asset participates in such general market moves, that asset entails systematic risk. Specific risk is the risk which is unique to an individual asset. It represents the component of an asset's return which is uncorrelated with general market moves (Lintner, 1965).

No matter how much we diversify our investments, it's impossible to get rid of all the risk. As investors, we deserve a rate of return that compensates us for taking on risk. The capital asset pricing model (CAPM) helps us to calculate investment risk and what return on investment we should expect. Here we look at the formula behind the model, the evidence for and against the accuracy of CAPM, and what CAPM means to the average investor (Sharpe, 1964).

When the CAPM was first introduced, the investment community viewed the new model with suspicion, since it seemed to indicate that professional investment management was largely a waste of time. It was nearly a decade before investment professionals began to view the CAPM as an important tool in helping investors understand risk. The key element of the model is that it separates the risk affecting an asset's return into two categories. The first type is called unsystematic, or company-specific, risk. The long-term average returns for this kind of risk should be zero. The second kind of risk, called systematic risk, is due to general economic uncertainty. The CAPM states that the return on assets should, on average, equal the yield on a risk-free bond held over that time plus a premium proportional to the amount of systematic risk the stock possesses (Markowitz, 1952).

### **2.3 Determinants of Non-Performing Loans**

According to Basel (1999) a sound and comprehensive credit risk management program need to address these four areas: (i) establishing an appropriate credit risk environment; (ii) operating under a sound credit granting process; (iii) maintaining an appropriate credit administration, measurement and monitoring process; and (iv) ensuring adequate

controls over credit risk. Although specific credits risk management practices may differ among banks depending upon the nature and complexity of their credit activities. These practices should also be applied in conjunction with sound practices related to the assessment of asset quality, the adequacy of provisions and reserves, and the disclosure of credit risk.

### **2.3.1 Operating under a Sound Credit Granting Process**

Basel Committee (1999) also agrees that, to have a sound credit granting processes banks must operate within sound, well-defined credit-granting criteria. These criteria should include a clear indication of the bank's target market and a thorough understanding of the borrower or counterparty, as well as the purpose and structure of the credit, and its source of repayment. Banks should establish overall credit limits at the level of individual borrowers and counterparties, and groups of connected counterparties that aggregate in a comparable and meaningful manner different types of exposures, both in the banking and trading book and on and off the balance sheet.

### **2.3.2 Maintaining an Appropriate Credit Administration, Measurement and Monitoring Process**

To maintain an appropriate credit administration, measurement, monitoring process, Basel (1999) sets out a number of principals. One is that Banks should have in place a system for the ongoing administration of their various credit risk-bearing portfolios. Banks must have in place a system for monitoring the condition of individual credits, including determining the adequacy of provisions and reserves; and third, they are encouraged to develop and utilise an internal risk rating system in managing credit risk.

The rating system should be consistent with the nature, size and complexity of a bank's activities.

Another principle to guide in maintaining an appropriate credit process is that banks must have information systems and analytical techniques that enable management to measure the credit risk inherent in all on- and off-balance sheet activities. The management information system should provide adequate information on the composition of the credit portfolio, including identification of any concentrations of risk. Moreover, banks must have in place a system for monitoring the overall composition and quality of the credit portfolio. Lastly, banks should take into consideration potential future changes in economic conditions when assessing individual credits and their credit portfolios, and should assess their credit risk exposures under stressful conditions (Basel, 1999).

Therefore, to have a sound credit risk management system, it is necessary to establish a proper credit risk environment, sound credit granting processes, appropriate credit administration, measurement, monitoring and control over credit risk, policy and strategies that clearly summarize the scope and allocation of bank credit facilities as well as the approach in which a credit portfolio is managed i.e. how loans are originated, appraised, supervised and collected, a basic element for effective credit risk management (Basel, 1999).

## **2.4 Empirical Review**

### **2.4.1 Credit Granting**

Ahmed (2012) did an investigation of the relationship between non-performing loans, macroeconomic factors, and financial factors in context of private commercial banks in

Bangladesh. The empirical analysis evaluates as to how banks' non-performing loans are influenced by three major sets of economic and financial factors, i.e., terms of credit, bank size induced risk preferences and macroeconomic shocks. The study selected 15 banks. The findings prove support to the hypotheses that bank size and horizon of loan maturity has negative influence on non-performing loan. The other variables considered do not have any significant influence on non-performing loan.

Mwithi, (2010) conducted a study to determine the relationship between credit risk management practices and the level of non-performing loans of microfinance institutions in Nyeri County, Kenya. The study found out that the level of credit risk assessment and management was high in the MFIs. It was also found out that effective management of their institutions was affected by liquidity and profitability, and that asymmetric information in loan market affects the effective management of NPLs in MFIs in Nyeri County. The study found that inability to enforce covenants leads to NPLs among MFIs in Nyeri County to a very large extent. The study concluded that the relationship between credit risk management approaches employed by Micro Finance Institutions in Nyeri County and the level of Non-Performing Loans was a negative correlation i.e. the higher the level of credit risk management, the lower the level of NPLs.

Kithinji (2010) conducted a study on credit risk management and profitability of banks in Kenya. Data on the amount of credit, level of nonperforming loans and profits were collected for the period 2004 to 2008. Amount of credit was measured by loan and advances to customers divided by total assets, nonperforming loans was measured using

nonperforming loans/ total loans, and profits were measured using ROTA (Return on Total assets). The findings reveal that the level of credit was high in the early years of the implementation of Basel II but decreased significantly in 2007 and 2008, probably when the Basle II was implemented by commercial banks. The findings reveal that the bulk of the profits of commercial banks is not influenced by the amount of credit and nonperforming loans suggesting that other variables other than credit and nonperforming loans impact on profits. The model does not establish a relationship between profits, amount of credit and the level of non-performing loans. The study concluded that Commercial banks that are keen on making high profits should concentrate on other factors other than focusing more on amount of credit and non-performing loans.

Musyoki and Kadubo (2011) conducted a study on the impact of credit risk management on the financial performance of Banks in Kenya for the period 2000 – 2006. The objective of study was to assess various parameters pertinent to credit risk management as it affects banks' financial performance. Such parameters covered in the study were; default rate, bad debts costs and cost per loan asset. Financial reports of 10 banks was used to analyze profit ability ratio for seven years (2000-2006) comparing the profitability ratio to default rate, cost of debt collection an cost per loan asset which was presented in descriptive, regression and correlation was used to analyze the data. The study revealed that all these parameters have an inverse impact on banks' financial performance, however the default rate is the most predictor of bank financial performance vis-à-vis the other indicators of credit risk management. The recommendation is to advice banks to design and formulate strategies that will not only

minimize the exposure of the banks to credit risk but will enhance profitability and competitiveness of the banks.

#### **2.4.2 Credit Administration**

Gakure et al. (2012) conducted a study to investigate the effect of credit risk management techniques on the performance of unsecured bank loans by commercial banks in Kenya. The target population of this study was management staff working in commercial banks of the top, middle and low level management ranks. The sample size was 39 respondents. The data collection instruments were questionnaires. Quantitative data collected was analyzed by descriptive statistics using SPSS and presented through percentages, means, standard deviations and frequencies. A regression model was also used to measure the effect. The research found that risk identification affects the performance of unsecured bank loans to a moderate extent while inspection by branch managers affected the performance of unsecured bank loans to a great extent. The study concludes that risk identification affects the performance of unsecured bank loans to a great extent and that inspection by branch managers affected the performance of unsecured bank loans to a great extent. Risk measurement affects the performance of unsecured bank loans to a great extent and that risk analysis and assessment comprises identification of the outcomes also affected the performance of unsecured bank loans to a great extent. The study also concluded that credit approval guidelines and monitoring of borrowers affect the performance of unsecured bank loans to a great extent and that clear established process for approving new credits and extending the existing credits has been observed to be very important while managing Credit Risks in banks.



Afriyie and Akotey (2013) conducted a study to examine the impact of credit risk management on the profitability of rural and community banks in the BrongAhafo Region of Ghana. We used the annual financial statements of ten rural banks from the period of 2006 to 2010 (five years) for our analysis. The panel regression model was employed for the estimation. In the model, definition of Return on Equity (ROE) and Return on Asset (ROA) were used as profitability indicators while Non-Performing Loans (NLP) and Capital Adequacy Ratio (CAR) as credit risk management indicators. The findings indicate a significant positive relationship between non-performing loans and rural banks' profitability revealing that, there are higher loan losses but banks still earn profit. This indicates that, rural banks do not have sound and effective credit risk management practices. Theoretically, non-performing loans reduce the profit levels of rural banks but in a situation where non-performing loans are increasing proportionately to profitability, then it means that rural banks do not have effective institutional measures to deal with credit risk management.

#### **2.4.3 Credit Measurement and Monitoring**

Muasya (2013) investigated the relationship between credit risk management practices and loans losses - a study on commercial banks in Kenya. Descriptive research design was utilized in this study as it aimed to see if there is a relationship between credit risk management practices and loan portfolio losses in commercial banks in Kenya. The study utilized a standard questionnaire to collect primary data from the credit managers/officers through the drop and pick method where thirty six (36) responses were received. The data was then analyzed and the findings presented using tables giving descriptive statistics including frequencies, mean and percentages. Research findings indicated that a

significant number of commercial banks in Kenya had not put in place credit risk management information systems to effectively measure, monitor, control and identify risk, and that majority of management of commercial banks in Kenya recognized the need for information sharing among players within the industry in order to mitigate the risk. It was concluded that credit risk management practices are common among most of the commercial banks in Kenya and that management of these commercial banks appreciated government legislation relating to credit risk management through the introduction of the credit sharing information Act, and that there is a significant negative relationship between credit risk management practices and loans losses in commercial banks in Kenya.

Haneef et al (2012) did a study to investigate the impact of risk management on non-performing loan and profitability of banking sector of Pakistan. Five banks were selected for data collection and whole data was secondary in nature. The result of this study reveals that there is no proper mechanism for risk management in banking sector of Pakistan. Study also concluded that non-performing loans are increasing due to lack of risk management which threatens the profitability of banks. They further concluded that risk management encompasses risk identification, assessment, measurement, monitoring and controlling all risks inherent in the business of banking. The basic principles relating to risk management that are applicable to every financial institution, irrespective of its size and complexity.

## **2.5 Summary of the Empirical Review**

A review of empirical studies discussed in this study showed that there are mixed results on how credit risk management practices adopted by financial institutions impact on non-

performing loans. In some instances, some studies shows that credit risk management has a significant impact on the profitability of commercial banks while on the other hand, results show that credit risk management was found to have a negative impact on banks' profitability.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter discussed the methodology that was adopted by the researcher in carrying out the study. The chapter presented the population to be studied, the methods to be used to sample it, the instruments to be used in data collection and procedures that would be used in data analysis.

### **3.2 Research Design**

The study adopted a descriptive research design. According to Robinson (2012), descriptive research design study portrays an accurate profile of persons, events or situation. Furthermore, Chandran (2011) states descriptive study describes the existing conditions and attitudes through observation and interpretation techniques. These writer claim the descriptive research design is one of the best methods for conducting research in human contexts because of portraying accurate current facts through data collection for testing hypothesis or answering questions to conclude the study (Robinson 2012, Chandran 2011). Through use of descriptive and inferential statistics, thus this design will be deemed the best design to fulfill the objective of this study.

### **3.3 Study area**

The study was carried out on kcb branches in thika. The study involved 3 of kcb branches involving 43 correspondents.

### **3.4 Target population**

Target population can be defined as a compute set of individuals, cases/objects with some common observable characteristics of a particular nature distinct from other population.

Target population – defined as that population to which a researcher wanted to generalize

the result of a study. The population of this study were the general staff of kcb, this is the group from which the sample was drawn.

### **3.5 Sample size and sampling technique**

A simple random sampling technique was used. All elements were given equal chances of selection. It was only chance and chance alone that dictated the mode of selection therefore ensuring objectivity of the research. A total of five general staff from each of the seven kcb branches were interviewed using questionnaires. A total of 43 individuals interviewed constituted our sample.

### **3.6 Data Collection Instrument**

In order to achieve the set objectives of the study, both primary and secondary was used. The data was collected using a questionnaire. The questionnaire had both closed and open-ended questions. The closed ended questions enabled the researcher to collect quantitative data while open-ended questions enabled the researcher to collect qualitative data.

Questionnaires were considered for the study since they provided a high degree of data standardization, they were relatively quick to collect information from people in a non-threatening way and they were cheap to administer. According to Kombo and Tromp (2013), a self-administered questionnaire is the only way to elicit self-report on people's opinion, attitudes, beliefs and values. The questionnaires will be administered through drop and pick later method.

### **3.7 Validity and Reliability of the Instrument**

A pre-test of the questionnaire was out prior to the actual data collection. The developed questionnaire was checked for its validity and reliability through pilot testing. Reliability test helped establish the internal consistency of the instrument. Test re-test method was used to pilot the questionnaires, which do not form sample of the study. Reliability was tested by the Cronbach's alpha test which was calculated with the help of Statistical Package for Social Sciences (SPSS). Cronbach's alpha was used to determine the reliability whereby a co-efficient of above 0.7 imply that the instruments are sufficiently reliable for the measurement.

Validity of the questionnaire was established by the research and supervisor reviewing the items. The objectives of pre-testing was to allow for modification of various questions in order to rephrase, clarify and or clear up any shortcomings in the questionnaires before administering them to the actual respondents. It helped the researcher to correct inconsistencies arising from the instruments, which was ensure that they measure what is intended.

### **3.8 Data Analysis and Presentation**

The whole process which starts immediately after data collection and ends at the point of interpretation and processing data is data analysis (Cooper & Schindler, 2010). The data collected by the questionnaire was edited, coded, entered into Statistical Package for Social Sciences (SPSS) which aided in the data analysis. The collected data was analyzed through descriptive which included frequency distribution tables and measures of central tendency (the mean), measures of variability (standard deviation)

and measures of relative frequencies. The results were presented in tables, bar charts and bar graphs.

### **3.8.1 Analytical Model**

The study further adopted the following regression model to establish the form of relationship between credit risk management and the level of non-performing loans.

The equation will take the following form;

$$Y = \beta_0 + \beta_1 \chi_1 + \beta_2 \chi_2 + \beta_3 \chi_3 + \epsilon$$

Where: Y = Non-performing loans

$\chi_1$  = Risk granting process

$\chi_2$  = Risk administration

$\chi_3$  = Risk monitoring

$\beta_0$  = the constant

$\beta_1 - \beta_n$  = the regression coefficient or change included in Y by each  $\chi_i$

$\epsilon$  = error term

### **3.8.2 Test of Significance**

The R squared which is the co-efficient of determination showed the variation between the dependent and the independent variable. The Analysis of Variance (ANOVA) established the significance of the regression model in providing reliable results (confidence levels). The F-test was used to test for joint significance of all coefficients. The significance of the variables in the regression model was measured or

determined by the p value; whereby, if the p value of the variable is 0.05 (5%) and below, then the variable is deemed significant while where the p value co-efficient of the variable is above 0.05, then the relationship of the variables is deemed to be insignificant. The beta explained whether the relationship between the dependent and the independent variable was high or low, positive or negative; this was revealed by the value of the beta coefficient.



## **CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION**

### **4.1 Introduction**

This chapter discusses the interpretation and presentation of the findings obtained from the field. The chapter presents the background information of the respondents, findings of the analysis based on the objectives of the study that included the relationship between credit risk management and non-performing loans in kcb.

This chapter presents the research data analysis as guided by the study objectives.

#### **4.1.1 Response Rate of the Study**

**Table 4.1 Response rate of the study**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Response	37	86.0
Non response	6	14.0
<b>Total</b>	<b>43</b>	<b>100.0</b>

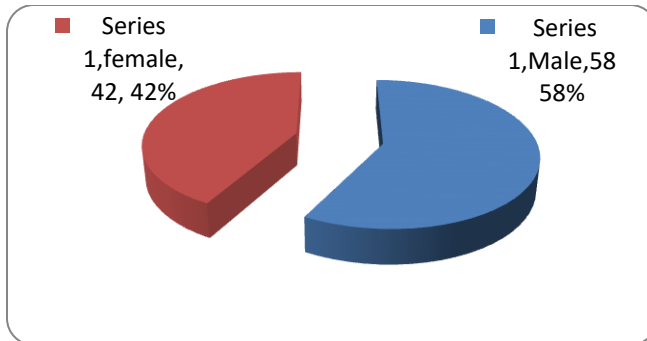
From the table above, the study targeted a population size of 43 respondents from which 37 filled in and returned the questionnaires making a response rate of 86%. This response rate was satisfactory to make conclusions on the relationship between credit risk management and non-performing loans in commercial banks in Kenya. According to Mugenda and Mugenda (2010), a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. Based on the assertion, the response rate was considered to excellent.

## 4.2 Respondent`s social demographic information

### 4.2.1 Gender

The study established the gender of the respondents as follows.

**Figure 4.1: Gender of the Respondents**



The results in the figure above shows that a majority of the respondents were male comprising 58 percent and females 42 percent

### 4.2.2 Age Bracket

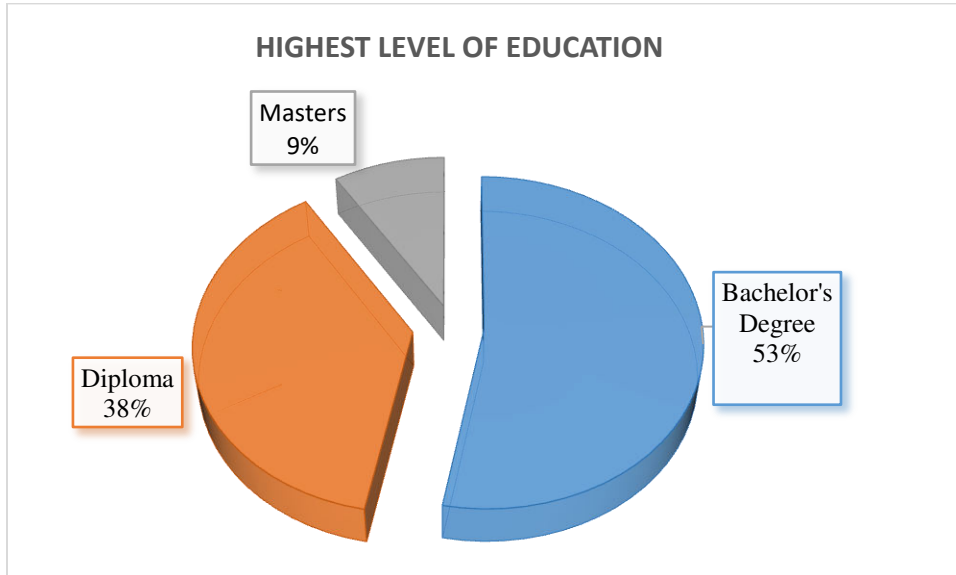
**Table 4.2: Age Bracket**

	Frequency	Percent
25 – 34 years	6	16.2
35 – 44 years	23	62.2
45 – 54 years	6	16.2
55 – 64 years	2	5.4
<b>Total</b>	<b>37</b>	<b>100</b>

Data presented above shows that a majority of 58 percent were between 35 and 44 years while 18 percent were between 45 and 54 years. Only 6 percent were between 55 and 64 years.

### 4.2.3 Highest qualification achieved

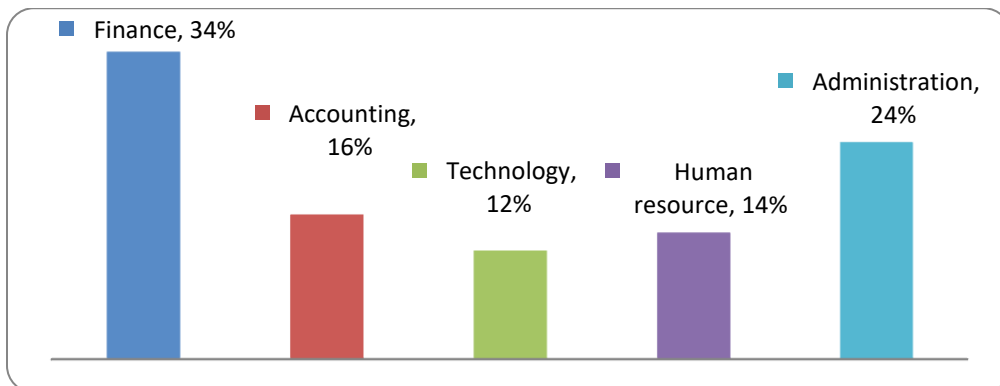
Figure 4.2: Highest Level of Education



On the respondent's level of education, the study found that the majority of respondents as shown by 53 percent had bachelor's degree, 38 percent had diploma qualification and only 9 percent had masters level of education.

### 4.2.4 Current Designation within the Bank

Figure 4.3: Current Designation within the Bank



Results presented in the figure above shows that a majority of the respondents' were in finance department (34 percent) while 24 percent were in administration, 14 percent were in human resource while 16 percent were in accounting departments

### **4.3 Sound Credit Granting Process and effect on Non-performing loans**

In this section, the study sought to establish whether commercial banks in Kenya had a Sound Credit Granting Process and how this affected the level of non-performing loans.

The findings are presented below.

#### **4.3.1 Whether Credit Risk Management System Operate under a Sound Credit Granting Process**

**Table 4.3: Credit Risk Management System Operate Under a Sound Credit Granting Process**

<b>Response</b>	<b>Frequency</b>	<b>Percent</b>
Yes	30	81.1
No	7	18.9
<b>Total</b>	<b>37</b>	<b>100.0</b>

From the table above on whether credit risk management system operate under a sound credit granting process, the study found out that 81.1% of the respondents indicated the credit risk management system operate under a sound credit granting process while 18.9% indicated it does not. The above information shows that most banks' credit risk management system operates under a sound credit granting process. The poor credit

granting process leads to increase in loan default hence reducing the revenue of most of the banks. The poor credit granting process is due to poor banks' policies on lending and credit risk assessment.

#### 4.3.2 Extent of Agreement with Statements Relating to Operating Credit Process

**Table 4.4: Extent of agreement with statements relating to operating credit process**

<b>Response</b>	<b>Mean</b>	<b>Std. Deviation</b>
Our bank must operate within sound, well defined credit granting criteria	3.92	0.493
Our bank has established overall credit limits both at individual borrowers and counterparties level	4.11	0.567
Our bank has a clearly established process for approving new and refinancing of existing credits	4.11	0.516
All extensions of credit must be made on an arms' length basis	4.38	0.594
<b>Average Mean</b>	<b>4.13</b>	<b>0.5425</b>

From the extent of agreement with statements relating to operating credit process, the study found that all extensions of credit must be made on an arm's length basis as shown by mean of 4.38, the bank has established overall credit limits both at individual borrowers and counterparties level and bank has a clearly established process for approving new and refinancing of existing credits as shown by the mean of 4.11 and that the bank must operate within sound, well defined credit granting criteria as shown by mean of 3.92.

### 4.3.3 The Extent that a Sound Credit Granting Process Affects Non-performing loans

**Table 4.5: Extent a sound credit granting process affects non-performing loans**

<b>Response</b>	<b>Frequency</b>	<b>Percent</b>
Very great extent	1	2.7
Great extent	17	45.9
Moderate extent	16	43.2
Little extent	3	8.1
<b>Total</b>	<b>37</b>	<b>100.0</b>

From the findings on the extent that a sound credit granting process affects non-performing loans, the study found that majority of the respondents agreed to a great extent that a sound credit granting process affects non-performing loans as shown by 45.9%, 43.2% agreed to a moderate extent, 8.1% agreed to a little extent while 2.7% agreed to a very great extent. The above information shows that a sound credit granting process affects non-performing loans.

#### 4.4 Credit Measurement and Administration process

In this section, the study sought to determine the extent to which banks maintains an appropriate credit administration process; and how it affects the level of non-performing loans.

##### 4.4.1 Extent that the Bank Maintains an Appropriate Credit Administration Process

**Table 4.6: Maintaining an appropriate credit administration Process**

<b>Response</b>	<b>Frequency</b>	<b>Percent</b>
Very Great Extent	7	18.9
Great extent	14	37.8
Moderate extent	11	29.7
Little extent	5	13.5
<b>Total</b>	<b>37</b>	<b>100.0</b>

From the findings on the extent that the bank maintains an appropriate credit administration measurement, monitoring process, the study found that majority of the respondents agreed to a great extent that a sound credit granting process affects non-performing loans as shown by 37.8%, 29.7% agreed to a moderate extent, 18.9% agreed to a very great extent while 13.5% agreed to a little extent. The above information shows that bank maintains an appropriate credit administration measurement, monitoring process.

#### **4.4.2 The Challenges Experienced in Maintaining Appropriate Credit Measurement and Administration Process in the Bank**

The study revealed the challenges experienced in maintaining appropriate credit administration process in the bank include lack of clients to disclose full information regarding their purpose of the loans and some clients take unsecured loans and then default.

#### **4.4.3 The Extent Credit Measurement and Administration Influence the Level of Non-performing Loans**

**Table 4.7: Credit Measurement and Administration and Level of Non-Performing Loans**

<b>Response</b>	<b>Mean</b>	<b>Std. Deviation</b>
Our bank has a system for administering the condition of individual credits, including determining the adequacy of provisions and reserves	3.76	0.597
The rating system is consistent with the nature, size and complexity of our banks activities	3.81	0.660
Our bank have information systems and analytical techniques that enable management to measure the credit risk inherent in all on and off balance sheet activities	4.05	0.705
The management information system should provide adequate information on the composition of the credit portfolio	4.08	0.759
Our bank take into consideration potential future changes in economic conditions when assessing individual credits and their credit portfolios	4.19	0.739



From the extent of agreement with statements relating to extent that credit risk management influence the level of non-performing loans, the study established majority of the respondents agreed that bank take into consideration potential future changes in economic conditions when assessing individual credits and their credit portfolios as shown by a mean of 4.19. The management information system should provide adequate information on the composition of the credit portfolio as shown by a mean of 4.08. Bank have information systems and analytical techniques that enable management to measure the credit risk inherent in all on and off balance sheet activities as shown by a mean of 4.05. Bank has a system for administering individual credits, including determining the adequacy of provisions and reserves as shown by mean of 3.76. The rating system is consistent with the nature, size and complexity of our banks activities as shown by the mean of 3.81; and that the bank must operate within sound, well defined credit granting criteria as shown by mean of 3.92.

#### **4.4.4 How an Appropriate Credit Administration Process Affect the Non-performing Loans**

An appropriate credit administration process leads to evaluation of the borrowers before lending the loans, incorporation of a certain rate to incorporate risk defaults and incorporating different rates on different clients depending on their risks of default, this would lead to decrease in the number of non-performing loans.

#### 4.4.5 The Extent that Credit Risk Management Practices Adopted by the Bank Influence the Level of Non-performing Loans

**Table 4.8: Credit Risk Management Practices and Level of Non-performing Loans**

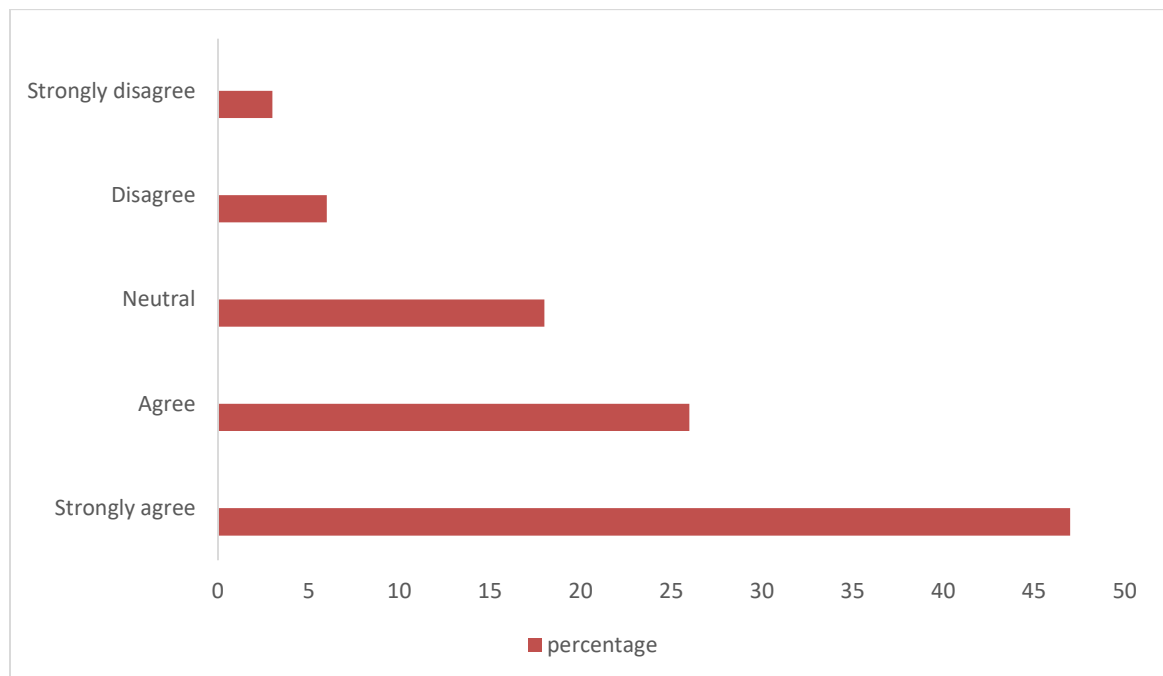
<b>Response</b>	<b>Frequency</b>	<b>Percent</b>
Very Great Extent	7	18.9
Great extent	15	40.5
Moderate extent	11	29.7
Little extent	4	10.8
<b>Total</b>	<b>37</b>	<b>100.0</b>

From the findings on the extent that credit risk management practices adopted by the bank influence the level of non-performing loans, the study found that majority of the respondents agreed to a great extent that credit risk management practices adopted by the bank influence the level of non-performing loans as shown by 40.5%, 29.7% agreed to a moderate extent, 18.9% agreed to a very great extent while 10.8% agreed to a little extent. The above information shows that credit risk management practices adopted by the bank influence the level of non-performing loans.

**4.5.2 Extent to which effective credit risk management requires a reporting and review structure to ensure that risks are effectively identified and assessed and that appropriate controls and responses are in place.**

This section sought to determine whether credit risk management requires a reporting and review structure. The results are presented in Table 4.11.

**Table 4.11: Extent to which effective credit risk management requires a reporting and review structure to ensure that risks are effectively identified and assessed and that appropriate controls and responses are in place.**



From the graph above, most of the respondents strongly agreed that effective credit risk management requires a reporting and review structure to ensure that risks are effectively identified and assessed as shown by 47% of the respondents, 26% of the respondents also agreed while 17% of the respondents indicated to be neutral. However, 6.2% of the respondents disagreed that effective credit risk management requires a reporting and

review structure to ensure that risks are effectively identified and assessed who were supported by 3.8% of the respondents who also strongly disagreed.

#### 4.5.3 Risk Monitoring in Credit Risk Management

The study respondents were asked to indicate the extent of agreement with various statements regarding risk monitoring in credit risk management. The results are presented in Table 4.9.

**Table 4.12: Agreement on Risk Monitoring in Credit Risk Management**

	<b>Mean</b>	<b>Std. Deviation</b>
Risk monitoring can be used to make sure that risk management practices are in line with proper risk monitoring	3.74	0.767
Risk monitoring helps the bank management to discover mistake at early stage	3.76	0.532
The director's report on risk monitoring enables the shareholders to assess the status of the corporation knowledgeably and thoroughly	3.26	0.989
<b>Average Mean</b>	<b>3.73</b>	<b>0.724</b>

**Source:(SPSS output)**

The respondents agreed that risk monitoring helped the bank management to discover mistake at early stage and that risk monitoring could be used to make sure that risk management practices are in line with proper risk monitoring as shown by the mean scores of 3.76 and 3.74 respectively. However, the respondent indicated to be neutral on the opinion that the director's report on risk monitoring enables the shareholders to assess

the status of the corporation knowledgeably and thoroughly as shown by the mean score of 3.26.

#### 4.6 Regression Analysis

In this study, a multiple regression analysis was conducted to test the influence among predictor variables. The research used statistical package for social sciences (SPSS V 20) to code, enter and compute the measurements of the multiple regressions.

**Table 4.13: Regression Analysis Model Summary**

Model	R	R squared	Adjusted R Square	Std. Error of the Estimate
1	.887	.787	.752	.26548

**Source:( SPSS Output)**

From the table above, R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table below there was a strong positive relationship between the study variables as shown by R 0.887 at 5% significance level. The Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable, from the findings in the table below the value of adjusted R squared was 0.752 an indication that there was variation of 75% on non - performing loans due to changes in credit granting process, credit administration, measurement and monitoring process at 95% confidence interval. This is an indication that 75% of the changes in credit risk management could be accounted for by the independent variables.

**Table 4.14: Analysis of Variance Table**

Model	Sum of Squares	df	Mean Square	F	Sig.	
	Regression	3.256	4	0.814	3.524	
	Residual	7.854	34	0.231		
	<b>Total</b>	<b>11.11</b>	<b>38</b>			

**Source:(SPSS output )**

From the table above, the processed data, which is the population parameters, had a significance level of 2.6% which shows that the data is ideal for making a conclusion on the population's parameter as the value of significance (p-value ) is less than 5%. The F critical at 5% level of significance, 4 d.f, 34 d.f was 2.65, while F computed was 3.524, since F calculated is greater than the F critical (value = 2.65), this shows that the overall model was significant.

**Table 4.15: Coefficients Results**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.410	.440		3.209	.000
Risk Identification	-.316	.129	-.026	-1.115	.018
Risk Monitoring	-.325	.112	-.152	-1.121	.026
Risk analysis and appraisal	-.397	.125	-.262	-1.863	.033

**Source: (SPSS output)**

$$Y = 0.410 - 0.316 X_1 - 0.325 X_2 - 0.397 X_3$$

From the regression equation above it was found that holding risk identification, risk monitoring, risk analysis and appraisal, bank size and interest rates to a constant zero, non-performing loans will be 0.410, a unit increase in risk identification would lead to decrease in non-performing loans by 0.316 units, a unit increase in risk monitoring would lead to decrease in non-performing loans by 0.325 units, a unit increase in risk analysis

and appraisal would lead to decrease in non-performing loans by 0.397 units, a unit increase in bank size would lead to increase in non-performing loans by 0.346 units while a unit increase in interest rates would lead to increase in non-performing loans by 0.417 units. At 5% level of significance and 95% level of confidence, risk identification had a 0.018 level of significance; risk monitoring had a 0.026 level of significance, risk analysis and appraisal had a 0.033 level of significance, bank size had 0.029 while interest rates 0.039. All the variables were significant ( $p < 0.05$ ).

#### **4.6 Interpretation of the Findings**

The study found out that the bank identified and managed credit risk inherent in all products and activities. The study also found out that the senior management of the bank developed policies and procedures for identifying, measuring, monitoring and controlling credit risk. The senior management in the bank also strictly implemented the credit risk strategy approved by the board of directors and the board of directors approves the credit risk strategy and significant credit risk policies of the bank. This is in line with Basel (1999), who revealed that in establishing a proper credit risk environment, the board of directors and the senior management have responsibility for approving, reviewing for implementing the credit risk strategy procedures in the bank. The study further found out that the bank had established an appropriate credit risk environment, and that the bank operated under a sound credit granting process. The respondents further agreed to a great extent that a sound credit granting process affects non-performing loans. This is also in line with Basel Committee (1999) who revealed that banks must operate within sound, well-defined credit-granting criteria. These criteria should include a clear indication of the bank's target market and a thorough 44 understanding of the borrower or



counterparty, as well as the purpose and structure of the credit, and its source of repayment. The study also found out that poor credit granting process leads to increase in loan default hence reducing the revenue of the bank. The poor credit granting process is due to poor banks' policies on lending and credit risk assessment. These findings are in agreement with those of Haneef et al. (2012) who revealed that non-performing loans are increasing due to lack of risk management which threatens the profitability of banks.

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

This chapter presents the discussion of key data findings, conclusion drawn from the findings highlighted and recommendation made there-to.

### **5.2 Summary**

The study findings show that KCB have a sound credit risk management system, that the bank subjects new credit products and activities to adequate risk management procedures and controls before being introduced or undertaken. The senior management of the bank develops policies and procedures for identifying, measuring, monitoring and controlling credit risk. Bank identifies and manages credit risk inherent in all products and activities. The credit risk policies and procedures developed address credit risk in all the bank activities and at both the individual credit and portfolio levels. The senior management in the bank strictly implements the credit risk strategy approved by the board of directors and the board of directors approves the credit risk strategy and significant credit risk policies of the bank. The study further established that KCB have established an appropriate credit risk environment, lack of appropriate credit risk environment leads to lack of evaluation of the borrowers, failure to account for risk associated with loan defaults and lack of use of credit reference Bureaus hence increasing the chances of loan defaults hence increase in the non-performing loans.

The study revealed that the bank operate under a sound credit granting process. The poor credit granting process leads to increase in loan default hence reducing the revenue of most of the banks. The poor credit granting process is due to poor banks' policies on lending and credit risk assessment. The study found that all extensions of credit must be

made on an arm's length basis, the bank has established overall credit limits both at individual borrowers and counterparties level and bank has a clearly established process for approving new and refinancing of existing credits and that the bank must operate within sound, well defined credit granting criteria represented by mean of 3.92 and a sound credit granting process affects non-performing loans.

The study established that majority of the respondents agreed to a great extent that a sound credit granting process affects non-performing loans represented by 37.8%, 29.7% agreed to a moderate extent, 18.9% agreed to a very great extent while 13.5% agreed to a little extent. The above information shows that bank maintains an appropriate credit administration measurement, monitoring process. The study revealed the challenges experienced in maintaining appropriate credit administration, measurement, monitoring process in the banks include lack of clients to disclose full information regarding their purpose of the loans and some clients take unsecured loans and then default.

The study further revealed that an appropriate credit administration measurement and monitoring process leads to evaluation of the borrowers before lending the loans, incorporation of a certain rate to incorporate risk defaults and incorporating different rates on different clients depending on their risks of default, this would lead to decrease in the number of non-performing loans. The study further revealed that credit risk management practices adopted by the bank influence the level of non-performing loans to a great extent.

Finally the study revealed that risk identification, risk monitoring and risk analysis and appraisal would lead to decrease in non-performing loans while bank size and interest rates would lead to increase in non-performing loans.

### **5.3 Conclusion**

The study concluded that KCB bank have a sound credit risk management system and the senior management develop policies and procedures for identifying, measuring, monitoring and controlling credit risk. Most banks have established an appropriate credit risk environment, lack of appropriate credit risk environment leads to lack of evaluation of the borrowers, failure to account for risk associated with loan defaults and lack of use of credit reference Bureaus hence increasing the chances of loan defaults hence increase in the non-performing loans. The study further concludes that KCB operate under a sound credit granting process and poor credit granting process leads to increase in loan default hence reducing the revenue of most of the banks. The challenges experienced in maintaining appropriate credit administration, measurement, monitoring process in the bank include lack of clients to disclose full information regarding their purpose of the loans and some clients take unsecured loans and then default.

Credit risk management practices adopted by the bank influence the level of non-performing loans to a great extent and that risk identification, risk monitoring and risk analysis and appraisal would lead to decrease in non-performing loans while bank size and interest rates would lead to increase in non-performing loans.

#### **5.4 Recommendations for Policy**

The Kenyan market is currently experiencing an improvement in information sharing following the implementation of credit reference bureaus. This will over time reduce information asymmetries that exist in the market today for most banks. However Kcb bank must respond to this by combining this information with different credit risk management techniques used to evaluate the clients by reviewing the lending terms and conditions of the clients.

The overall responsibility of risk management vests in bank's board. The board should outline risk management strategy and formulate well-defined policies and procedures. Risk management department be made on portfolio or business line basis, to adopt a holistic approach judging the overall risk exposure in assessing and managing risk profile of the bank.

Wherever possible risks exists risks should be quantitatively measured and reported, the risk review function should be independent of those who take risk and banks should have contingency plans for any abnormal or worst case scenarios.

#### **5.5 Recommendations for Further Research**

The study suggests that a further study should be undertaken to investigate the effect of the Credit Referencing Bureau in Kenya on the Access of Credit Facilities from Kenyan commercial bank. Further analysis should also be carried out to find out the credit risk management strategies that kenya commercial bank use.

## REFERENCES

- Abiola, I., & Olausi, A.S. (2014). The Impact Of Credit Risk Management On The Commercial Banks Performance In Nigeria. *International Journal of Management and Sustainability*, 3(5): 295-306
- Afriyie, H.O., & Akotey, J.O. (Credit Risk Management and Profitability of Rural Banks in the Brong Ahafo Region of Ghana. *European Journal of Business and Management*. Vol.5, No.24.
- Ahmed, J.U. (2010). *An Empirical Estimation of Loan Recovery and Asset Quality of Commercial Banks; The NEHU Journal*, Vol.8 (1).
- Ahmed, S.Z (2012). *An investigation of the relationship between Non-performing loans, macroeconomic factors, and financial factors in context of private commercial banks in Bangladesh*. Independent University, Bangladesh.
- Al-Tamimi, H. & Al-Mazrooei M., (2007), Banks' Risk Management: A Comparison Study of UAE National and Foreign Banks, *The Journal of Risk Finance*, Vol. 8 No.4, pp. 394-409.
- Basel Committee on Banking Supervision (2015). "*Risk Management Practices and Regulatory Capital: Cross-sectional Comparison*". Basel Committee on Banking Supervision, [www.bis.org](http://www.bis.org)
- Basel Committee on Banking Supervision (2015). "*Studies on Credit Risk Concentration*", An Overview of the Issues and a Synopsis of the Results' from the research Task Force Project
- Basel Committee on Banking Supervision, (1999). "*Principles for the management of credit risk*", available at: [www.bis.org/publ/pcbs54.htm](http://www.bis.org/publ/pcbs54.htm)
- Basel Committee on Banking Supervision, (2006). "Credit rating and complementary sources of credit quality information", working paper, No.3.
- Biabani, S., Gilaninia, S., Mohabatkhah, H., (2012). Assessment of Effective Factors on Non-Performing Loans (NPLs) Creation: Empirical Evidence from Iran (2006-2011). *Journal of Basic and Applied Scientific Research*, 2(10)10589-10597
- Borbora. (2007). *Management of Non-Performing Assets (NPAs) in the Urban Cooperative Banks (UCBs)*, Reserve Bank of India, [Online], URL:

cab.org.in/Lists/Knowledge%20Bank/Attachments/26/NPA%20MANAGEMENT.pdf

Central bank of Kenya Annual Report (2021).

Central Bank of Kenya, (2021). *Risk Management Survey for the Banking Sector*. CBK, Nairobi.

Central Bank of Kenya, (2021) *Bank Supervision Annual Report*. CBK, Nairobi.

Central Bank of Kenya, (2021) *Risk Management Survey for the Banking Sector*. CBK, Nairobi.

Chand, S., (2002). *Financial Sector Development and Economic Growth in Pacific Island Countries*. Pacific Economic Bulletin, 17(1), 117-133.

Chandra, S., & Shadel, W.G. (2007). "Crossing disciplinary boundaries: Applying financial portfolio theory to model the organization of the self-concept". *Journal of Research in Personality* 41 (2): 346–373.

Chandran, E. (2011). *Research methods: A quantitative approach*. Nairobi: Daystar University

Collins, N.J., & Wanjau, K. (2011). The Effects of Interest Rate Spread on the Level of Non-Performing Assets: A Case of Commercial Banks in Kenya, *International Journal of Business and Public Management*, Vol. 1(1).

Cooper, D.R. & Schindler, P.S. (2006). *Business research methods* (9th ed.). Boston: McGraw-Hill/Irwin.

Cooper, D.R. and Schindler, P.S. (2003). *Business research methods*. (8th ed.). New Delhi: Tata Mc Graw-Hill Publishing Company Ltd.

Crowley, J., 2007. *Interest Rate Spreads in English-Speaking Africa*. IMF Working Paper. April 2007, 123-45

Ekrami, M. & Rahnama, E. A. (2013). "Investigating of effecting factors in NPLs creation", *economic researches*, 6: 195-216

Gakure R.W., Ngugi, J.K., Ndwiga P.M., Waithaka, S.M. (2012). Effect of credit risk management techniques on the performance of unsecured bank loans employed

- commercial banks in Kenya. *International Journal of Business and Social Research (IJBSR)*, Volume -2, No.-4.
- Greenidge, K., & Grosvenor, T., (2010). Forecasting non-performing loans in Barbados. *Journal of Business, Finance and Economics in Emerging Economies*, 5, 80-107
- Greuning, H., & Iqbal, Z. (2010), "Banking and Risk Environment" in Archer, S. and Karim, R. A. A. 2010, "Islamic Finance: The Regulatory Challenge", John Wiley & Son (Asia) Pte Ltd.
- Haneef, S., Riaz, T., Ramzan, M., Rana, M. A. Ishaq, H. M. and Karim Y. (2012). Impact of Risk Management on Non-Performing Loans and Profitability of Banking Sector of Pakistan. *International Journal of Business and Social Science* Vol. 3 No. 7.
- Hull, J.C. (2011), "Risk Management and Financial Institutions", Pearson Education, New Jersey.
- International Monetary Fund, (2005). Clarification and Elaboration of Issues Raised by the December 2004 Meeting of the Advisory Expert Group of the Intersecretariat Working Group on National Accounts. IRM & AIRMIC & ALARM, (2002). Risk Management Standard, London, UK: Institute of Risk Management (IRM), The Association of Insurance and Risk Managers (AIRMIC) and The National Forum for Risk Management in the Public Sector (ALARM)Risk\_Management\_Standard\_030820.pdf
- Jamaat, A., & Asgari, F. (2010). "Credit risk management in banking system with data mining approach", quarterly magazine of quantity studies in management, 1(3):115-126
- Jimenez, G., and Saurina, J. (2013), "Credit cycles, credit risk, and prudential regulation", Banco de Espana, May 2012.
- Keeton, W. & Morris, C.S. (1987). "Why Do Banks' Loan Losses Differ?" Federal Reserve Bank of Kansas City, Economic Review, (May): 3-21.
- Kithinji, M.A. (2010). *Credit Risk Management and Profitability Of Commercial Banks In Kenya*. University of Nairobi MBA Project.



- Klein, N. (2013). *Non-Performing Loans in CESEE: Determinants and Macroeconomic Performance*, IMF Working Paper, WP/13/72.<http://www.imf.org/external/pubs/ft/wp/2013/wp1372.pdf>
- Kumbirai, M., & Webb, R. (2010). A financial Ratio Analysis of Commercial Bank Performance in South Africa, *African Review of Economics and Finance*, Vol. 2 No.1, pp. 30-53.
- Lintner, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets, *Review of Economics and Statistics*, 47, 13-37.
- Margrabe, W. (2013). *Credit risk management of commercial loan portfolio*.
- Markowitz, H. (1952). Portfolio Selection. *Journal of Finance*, 12, 71-91.
- Matten, C. (2000). *Managing bank capital: Capital allocation and performance measurement* (2 ed.). New York: John Wiley & Sons, Ltd.
- Morton, G. (2003). “*Managing Bank Risk*”, Academic Press.
- Muasya, A.M (2013). *The Relationship between Credit Risk Management Practices and Loans Losses - A Study on Commercial Banks in Kenya*. Unpublished Research Project, University of Nairobi.
- Mwithi, S. (2010). *Practices and the level of non-performing loans of Microfinance institutions in Nyeri County*. Unpublished Research Project, University of Nairobi.
- Ngugi, R.W., (2001). An Empirical Analysis of Interest Rate Spread in Kenya. African Economic Research Consortium, Research Paper 106
- Nocco, B.W. and Stulz, R.M. (2010), *Enterprise Risk Management: Theory and Practice*, Ohio State University
- Panta, R., (2014). Challenges in Banking: A Nepalese Diaspora, *Socio-Economic Development Panorama*, Vol. 1(2), 9 -22
- Pausenberger, E., & Nassauer, F. (2002), *Governing the Corporate Risk Management Function*, in Frenkel, M. Hommel, U. and Rudolf, M. 2005, *Risk Management: Challenge and Opportunity*, Springer.

- Ranjan & Dhal, (2013), “*Non-Performing Loans and Terms of Credit*”, RBI Occasional Papers, winter, Vol. 24, No. 3, pp. 81-121
- Richardson, D.C (2016) PEARLS Monitoring system World Council information center. Maddison, WI, WOCCU Toolkit series NO.4
- Robson, C. (2012). *Real World Research*. Blackwell, (2nd edition)
- Rossi, S., Schwaiger, M., & Winkler, G. (2005), “*Managerial Behaviour and Cost/Profit Efficiency in the Banking Sectors of Central and Eastern European Countries.*” Working Paper No. 96, Austrian National Bank.
- Rouse C. N. (1989). *Bankers’ Lending Techniques*, Chartered Institute of Bankers Publication.
- Saita, F. (2007). *Value at Risk and Bank Capital Management. Risk Adjusted Performances, Capital Management, and Capital Allocation Decision Making*. Academic Press Advances Financial Series, 2007, Elsevier Inc.
- Salas, V., & Saurina, J. (2010), “Credit Risk in Two Institutional Regimes: Spanish Commercial and Savings Banks.” *Journal of Financial Services Research* 22 (3): 203–24.
- Saunders, A., & Cornett, M. (2011). *Financial Markets and Institutions; an Introduction to the Risk Management Approach*. McGraw Hill Pub.
- Sharpe, William F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk, *Journal of Finance*, 19 (3), 425-442.
- Simkovic, M., & Kamnetzky, B., (2011). Leveraged Buyout Bankruptcies, the Problem of Hindsight Bias, and the Credit Default Swap Solution (August 29, 2010). *Columbia Business Law Review*, Vol. 2011, No. 1, p. 118.
- Strutt, J. (2003). *Risk assessment and management: the engineering approach*, Centre for Industrial Safety and Reliability, Cranfield University, unpublished paper.
- Tchankova, L. (2002). Risk Identification – Basic Stage in Risk Management, *Environmental. Management and Health*, Volume 13, Number 3, pp. 290-297.

## APPENDICES

### Appendix I: Questionnaire

**Instructions:** Tick appropriately or write down your answer in the space provided. Your cooperation and feedback is valued and highly appreciated.

#### Section A: Respondents Profile

1. Indicate your gender.

- a) Male [ ]                      b) Female [ ]

2. Indicate your appropriate age bracket.

- a) Below 30 years [ ]    b) 31-40 Yrs [ ]    c) 41-50 Yrs [ ]  
d) Above 50 Yrs [ ]

3. Kindly indicate your highest level of academic qualification.

- a) Certificate/Diploma [ ]    b) Bachelors Degree [ ]  
d) Masters [ ]    c). PhD. [ ]  
d). Other (specify).....

4. How many years have you worked in this institution? (Tick (☐) where appropriate).

- a) Less than 5 Years [ ]                      b) 5-10 Years [ ]  
c) 11-15 Years [ ]                      d) 16-20 Years [ ]  
d) Above 20 Years [ ]

5. What is your current designation within the bank?.....

**Section B: Credit Granting Process**

7. Does your Credit Risk Management System Operate under a Sound Credit Granting Process?

- a) Yes [ ]                      b) No [ ]

8. To what extent does the following credit risk management influence the level of non-performing loans? Use a scale of 1 to 5 where 5 is to a very great extent, 4 is to a great extent, 3 is to a moderate extent, 2 is to a little extent while 1 is to no extent

	1	2	3	4	5
Our bank must operate within sound, well defined credit granting criteria					
Our bank has established overall credit limits both at individual borrowers and counterparties level					
Our bank has a clearly established process for approving new and refinancing of existing credits					
All extensions of credit must be made on an arms' length basis					

9. To extent does a Sound Credit Granting Process Affects Non-performing loans?

- Very great extent ( )      Great extent ( )      Moderate extent ( )  
 Little extent ( )      No extent ( )

**Section C: Credit Measurement and Administration process**

7. To what extent does bank maintain an appropriate credit administration process?

Very great extent ( )    Great extent ( )    Moderate extent ( )  
 Little extent ( )    No extent ( )

8. Which are the challenges experienced in maintain an appropriate credit administration process in your bank?

.....  
 .....

9. To what extent does the following credit risk management influence the level of non-performing loans? Use a scale of 1 to 5 where to a very great extent, 4 is to a great extent, 3 is to a moderate extent, 2 is to a little extent while 1 is to no extent

	1	2	3	4	5
Our bank has a system for administering of individual credits, including determining the adequacy of provisions and reserves					
The rating system is consistent with the nature, size and complexity of our bank's activities					
Our bank have information systems and analytical techniques that enable management to measure the credit risk inherent in all on- and off-balance sheet activities					
The management information system should provide adequate information on the composition of the credit portfolio.					

Our bank take into consideration potential future changes in economic conditions when assessing individual credits and their credit portfolios					
--	--	--	--	--	--

10. How does an appropriate credit administration process affect the non-performing loans? .....

.....

.....

11. On overall, to what extent does the credit risk management practices adopted by your bank influence the level of non-performing loans?

- To a very great extent      ( )      To a great extent      ( )
- To a moderate extent      ( )      To a little extent      ( )
- To no extent      ( )

**Section C: Credit Monitoring Process**

12. To what extent does bank maintain an appropriate credit monitoring process?

- Very great extent      ( )      Great extent      ( )      Moderate extent      ( )
- Little extent      ( )      No extent      ( )

13. Which are the challenges experienced in maintain an appropriate credit measurement, monitoring process in your bank?

.....  
 .....

14. How does an appropriate credit measurement and monitoring process affect the non-performing loans? .....

.....  
 .....

15. Effective credit risk management requires a reporting and review structure to ensure that risks are effectively identified and assessed and that appropriate controls and responses are in place. To what extent do you agree with the statement in view of risk monitoring in the credit risk management in your organization to ensure profitability?

- Strongly agree      ( )      Agree                      ( )
- Neutral                      ( )      Disagree                      ( )
- Strongly disagree      ( )

16. To what extent do you agree with the following statement about risk monitoring in credit risk management? Rate using a scale of 1 to 5 where 1 is strongly agree, 2 is Agree, 3 is Neutral, 4 is Disagree and 5 is Strongly disagree.

Risk monitoring in credit risk management	1	2	3	4	5
---	---	---	---	---	---

Risk monitoring can be used to make sure that risk management practices are in line with proper risk monitoring					
Risk monitoring helps the bank management to discover mistake at early stage					
The director's report on risk monitoring enables the shareholders to assess the status of the corporation knowledgeably and thoroughly					
Other, please specify					

**THANK YOU FOR YOUR PARTICIPATION**