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INFLUENCE OF CREDIT RISK MANAGEMENT ON NON-PERFORMING LOANS IN THE ZIMBABWEAN COMMERCIAL BANKS.

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By

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DEDICATION

I dedicate this study to my loving wife Tambue and my precious kids Christalla Mufaro and Cameron Tasimba, my very loving parents and my very supportive brother in law Edmond and his wife, Mama Imani. Thank you guys for your continued support and being pillars of strength in my endeavours. I love you guys; you mean everything to me.

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ABSTRACT

The study analysed the influence of credit risk management on non-performing loans within commercial banks in Zimbabwe. The rate of increase in non- performing loans in commercial banks motivated the researcher to undertake the study. The objectives of the study were to examine the impact of credit risk identification on non-performing loan ratio, assess the influence of credit risk measurement on non-performing loan ratio, analyse the effect of credit risk monitoring on non-performing loan ratio and to evaluate the link between credit risk control and non-performing loan ratio of commercial banks in Zimbabwe. The study was informed by the Agency Theory and the Asymmetric Information Theory. A quantitative methodology and a deductive approach were employed in this study. The survey research design was adopted in which semi-structured questionnaires were employed as primary data collection research instruments. These questionnaires were administered to a sample of 190 bank managers who were drawn from commercial banks in Harare. Of the 190 administered questionnaires, 115 were collected and analysed. Collected data was examined through SPSS Version 20. Data reliability was tested using Cronbach's alphas and the overall reliability coefficient of the 24 items that were employed in the questionnaire was 0.917. Descriptive statistics and simple linear regression analysis were utilised in examining the influence of credit risk management on non-performing loans of commercial banks in Zimbabwe. Findings revealed positive and significant impact of risk identification, measurement, monitoring and control on the performance of loans in commercial banks. It was concluded that credit risk management process of risk identification, measurement, monitoring and control is very crucial in enhancing positive performance of loans within commercial banks. The study recommended that bank managers should setup a CRM team drawn from all bank departments capable of identifying, measuring, monitoring and controlling diverse risks that banks face as an attempt to lower or reduce non-performing loans ratio and improve the profitability of their banks. The study focused on commercial banks only and this limited the generalisation of findings to the whole banking sector. It was proposed that future studies should explore other factors that influence loan performance in other types of banks.

LIST OF ACRONYMS AND ABBREVIATIONS

CAR – Capital Adequacy Ratio

CEO – Chief Executive Officer

CLA – Cost per Loan Asset

CRM – Credit Risk Management

DR – Default Rate

GLS – Generalised Least Squares

NPL – Non-performing loan

NPLR – Non-Performing Loan Ratio

POCL – Percentage of Classified Loans

RBZ – Reserve Bank of Zimbabwe

ROA – Return on Assets

ROE – Return on Equity

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CHAPTER ONE

1.0 Introduction

The study assess the influence of Credit Risk Management on Non-Performing Loans in the Zimbabwean Commercial Banks. The level of NPLs in Zimbabwean commercial banks have been increasing regardless of the credit risk management practices that were used by the commercial banks.   High non-performing loans have   a negative effect on operational effectiveness of banking institutions.

This chapter spells out the background behind this research, problem statement as well as the adopted conceptual framework. Objectives, hypotheses, research contribution, research significance, research assumptions, definition of key terms, and list of acronyms. Delimitations and research limitations as well as chapter summary also forms part of this chapter.

1.1 Background

One of the major roles of banking institutions is to facilitate economic development within a country through lending to the business sector (Isanzu, 2017; Kinyua, 2017 and Noor, Das & Banik, 2018). An operative banking system is thus of paramount importance when it comes to resource mobilisation by the economy needed for the attainment of economic growth as well as stability (Noor & Das, 2018). The external provision of funds to the business sector and the extent to which financiers monitor the attitude and performance of the corporates that would have been provided funds are critical aspects of credit management. The availability of credit to lend to the business sector depends on the profit that banks make and decide to re-invest (Noor, Das & Banik, 2018). However, existence of non-performing loans undermines the financial intermediary role of banks and thus affects the functioning of banks (Nyarko-Baasi, 2017). Credit management by a bank is thus critical in minimising loan losses and in fostering profit generation ability of banks which can be translated into economic growth.

The concept of credit risk management is an important topic that brings fierce debate on how it can be employed to minimise non-performing loans in the banking sector (Isanzu, 2017; Kinyua, 2017; Nyarko-Baasi, 2018 and Noor, Das & Banik, 2018). The management of credit risk involves the development of a suitable credit risk operating environment that aids a sound credit

facility granting process as well as maintaining a suitable credit management involving monitoring processes and sufficient control mechanisms over credit risk (Kinyua, 2017 and Nyarko-Baasi, 2018). According to Nyarko-Baasi (2018), non-performing loans (NPL) refers to the chances or likelihood of loan borrowers of not paying up the loans advanced to them by banks. This extends to meeting loan part payments or not meeting the loan payment at all. Defaulting of loan payment by borrowers has detrimental effects on the financial performance of banking institutions and on the overall economic growth and progress of a country (Kinyua, 2017; Nyarko-Baasi, 2018 and Noor, Das & Banik, 2018).

There are 19 banking institutions that are regulated by the Reserve bank of Zimbabwe (RBZ) (RBZ 4th Quarterly Banking Report, 2019). Since 2016, NPLR for these financial institutions have been fluctuating and this is one of the major aspects under close supervision by both the RBZ and the banks themselves. Zimbabwean banks have been experiencing high NPLR and this was one of the major reasons why Royal Bank was liquidated (Monetary policy, 2016). Table 1 shows NPLR of Zimbabwean banks between 2017 and 2018.

Table 1.1: Non-performing loan ratio of banks in Zimbabwe for 2017 and 2018

	2017				2018			
	Q1	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
NPLR	8.39%	7.95%	8.63%	7.08%	7.06%	6.22%	6.69%	6.92%

Source: Adapted from RBZ Quarterly Banking Sector Reports 2019

Table 1.1 show that NPLR fluctuated around an average of 8.0125% in 2017 which was high as compared to 2018 which was an average of 6.7225%. NPLR improved from 8.39% that was recorded in the first quarter of 2017 to 6.92% by the end of the last quarter of 2018 which according to RBZ 1st Quarter Banking Report (2019) was mainly driven by continued monitoring of CRM systems and high usage of Credit Registry by banks. Through continued monitoring of NPLs levels and the effectiveness of CRM practices of banks in Zimbabwe by RBZ, credit risk

identification, measurement, monitoring and control by the management of these banks is very instrumental in keeping the level of NPLs low. It is against this general background that this study seeks to examine the effect of credit risk identification, measurement, monitoring and control on NPLs in the commercial banks in Zimbabwe.

1.2 Research problem

The study seeks to empirically examine the effect of credit risk identification, measurement, monitoring and control, on NPLs in the commercial banks in Zimbabwe. High level of NPLs has an adverse effect on the operational effectiveness of banking institutions. In response to high levels of NPLs in Zimbabwe which saw the liquidation of banks like Royal Bank Limited, RBZ devised the Credit Registry which started receiving and reviewing loan records from banks in January 2017 (RBZ Circular to Banking Institutions N0. 04/2018). This saw an improvement in NPLs from 8.39% recorded by banking institutions in the first quarter of 2017 to 6.92% recorded in the last quarter of 2018 which according to RBZ 1st Quarter Banking Report (2019) was mainly driven by continued monitoring of CRM systems and high usage of Credit Registry by banks. CRM has been found to have a substantial positive influence on financial performance (Isanzu, 2017, Nyarko-Baasi, 2018) and on loan performance (Kinyua, 2017) and Murigi & Thuo, (2018).

1.3 Research objective

The main objective of the study is to analyse the Influence of Credit Risk Management on Non-Performing Loans in the Zimbabwean Commercial Banks.

1.3.1 Specific Objectives

The specific objectives of this study were:

  1.3.1.1 To examine the influence of credit risk identification on non-performing loan ratio

  1.3.1.2 To assess the influence of credit risk measurement on non-performing loan ratio

  1.3.1.3 To analyse the effect of credit risk monitoring on non-performing loan ratio

  1.3.1.4 To evaluate the link between credit risk control and non-performing loan ratio

1.4 Research questions

The research seeks to answer the following research question:
 What is the Influence of Credit Risk Management on Non-Performing Loans in the Zimbabwean Commercial Banks?

1.4.1 Specific research questions

The specific objectives of this study were:

> 1.4.1.1 What is the influence of credit risk identification on non-performing loan ratio?
>
> 1.4.1.2 What is the influence of credit risk measurement on non-performing loan ratio?
>
> 1.4.1.3 Does credit risk monitoring affect non-performing loan ratio?
>
> 1.4.1.4 Is there a link between credit risk control and non-performing loan ratio?

1.5 Hypotheses

In conducting this research, the following were hypothesised:

H_1 Credit risk identification has a positive impact on the performance of loans.

H_2 Credit risk measurement has a positive influence on non-performance loan ratio.

H_3 There is a positive effect of credit risk monitoring on the performance of loans.

H_4 There is a positive link between credit risk control and non-performance loan ratio.

1.6 Rationale of the study

The study contained both theoretical and practical significance on the effect of CRM on NPL.

1.6.1 Significance to theory

This research study seeks to close the knowledged literature gap in which no empirical research had been conducted in Southern Africa and in Zimbabwe in particular examining how the concepts of CM affects NPLs. The study offers an opportunity of making comparisons and informed decisions of the present findings with existing ones concerning

the effect of CRM on NPLs that were found by diverse authors in various countries. This study also highlighted areas that the present researcher proposed for future examination.

1.6.2 Significance to practice

The study practically examined the effects of CRM on NPL in the commercial banks in Zimbabwe. It publicized the practical merits that can be attained by commercial banks when they properly administer credit risk in relation to the performance of loans. The study outlined the CRM procedure that bank administrators can implement in an attempt to lower non-performance loan ratio so as to improve bank operational effectiveness as well as improve bank profits. The study has also backed the continuing debate regarding the effect of CRM on the performance of bank loans. Also, the research provided empirical findings that other authors who wish to further examine how the concept of CRM affect loan performance in other types of banking institutions can compare their findings with. In this regard the study had practical significance to stakeholders like bank managers, university students, other authors around the world as well as other financial institutions that offer credit facilities as part of their business operation.

1.7 Scope of the study

This research study was performed in Harare where head offices of all commercial banks in Zimbabwe are located and also where there is a hive of banking activities relative to other geographical areas. The study focused on the management of the 13 registered commercial banks in Zimbabwe as at 31 December 2019 namely ZB Bank, First Capital Bank, CBZ Bank, NMB Bank, NED Bank, Metropolitan Bank, FBC Bank, Stanbic Bank, Steward Bank, Banc ABC, Eco-Bank, Standard Chartered Bank and Agri-Bank. The research covered a period from 2015 to 2019; a period before and after the introduction of the Credit Registry by RBZ which saw varied non-performing loan ratio of banking institutions in Zimbabwe. Such a period is sufficient to examine the effect administration of credit risk has on non-performing loans within the banking industry in Zimbabwe.

1.8 Dissertation outline

Chapter I introduces the research with background information to the influence of CRM on NPLR. It goes on to look at the problem statement and the objectives and research questions. Further to this, the chapter provides the significance of the study and the dissertation outline.

Chapter 2 presents literature review, the chapter shows points of conversion and divergence in the literature; identify literature gaps to which this study will add to increase the existing body of knowledge.

Chapter 3 details the study methodology by explaining the research design, research paradigm and philosophy of the researcher. These govern the research process and will set the basis for the research work to be conducted which includes data collection methods and analysis tools which in turn pave way for the data presentation and inference of findings.

Chapter 4 provides the research findings and outcomes, presenting results of the study paving way for conclusion and recommendations.

Chapter five concludes the research bringing out the research findings. The researcher then draws conclusions and proffers solutions to the problem statement.

1.9 Chapter summary

The gap that this research filled was identified in this chapter through reviewing related studies in the background behind this research study. During the review, variables of CRM and NPLs were identified and these were conceptualised by the researcher and became the conceptual framework that guided this research study. The chapter outlined the objectives that the research seeks to achieve, hypotheses that were tested at research end, theoretical and practical significance of the study as well as geographical, research participant, data time and theoretical delimitations. Challenges faced during this research process and suppositions made by the researcher in conducting this research were also outlined in this chapter. Next chapter explored theoretical and empirical literature regarding the concept of CRM and NPLs.

CHAPTER TWO

LITERATURE REVIEW

2.1Introduction

This chapter presents literature review on the Influence of Credit Risk Management on Non-Performing Loans. The extant literature highlights the theoretical literature particularly the theories informing the study. The chapter further presents empirical literature on the key variables of the study which are credit risk identification, credit risk measurement, credit risk monitoring and credit risk control and how they influence nonperforming loans. Literature gaps will be highlighted as well as the conceptual framework of the study.

2.2 Definition of terms

2.2.1 Definition of Credit Risk Management

Isanzu (2017) explored how the concept of credit risk administration affects the performance of Chinese banks. The author gathered secondary data from the top five biggest commercial banks in China covering a time frame of seven years from 2008 up to 2014. NPL, capital adequacy ratio, impaired loan reserve as well as loan impairment levies were utilised as proxies of credit risk management while return on asset (ROA) was employed as financial performance measure. Isanzu (2017) examined the collected data through regression models computed using SPSS software. Findings revealed that NPL and capital adequacy ratio has substantial positive influence on the performance of commercial banks in China and cited the need for such banks to monitor and control their credit risk.

Gakure, R. W, Ngugi, J. K., Ndwiga, P. M. & Waithaka, S.M. (2012), defines credit risk administration as a well-thought-out tactic designed to administer uncertainties through the assessment of risk, crafting strategies to administer it and alleviation of risk utilising managerial means. Kinyua (2017) and Nyarko-Baasi (2018) avers that the management of credit risk involves the development of a suitable credit risk operating environment that aids a sound credit facility granting process as well as maintaining a suitable credit management involving monitoring processes and sufficient control mechanisms over credit risk. The administration of

credit risks requires strategic management to guarantee that there are appropriate and unblemished guidelines in administering risk (Kinyua, 2017). Such guidelines need be communicated throughout the entire bank making sure that everyone who is included in the credit risk administration comprehends them (ibid).

Kinyua (2017) postulate that credit risk refers to the loss that an organisation incurs or faces due to the inability of its credit customers or clients to settle what they owe in time and in full. Kurawa & Garba (2014) also equated credit risk to the loss that originates from the inability of debtors to settle the loans they would have borrowed from a bank or other forms of credit lines in time. Credit risk emanates from uncertainties in the other party's inability to honour its contractual obligations as stipulated in the specified contract (ibid). Banking institutions raise finance by pooling deposits from households, other corporates and the government and also through the provision of loan facilities to the households, other forms of businesses and the government through diverse arrangements (Murigi & Thuo, 2018). As such, loans that banks lends out represent the most crucial asset of the bank that need proper management if the bank is make profits out of lending (ibid). Customer deposits depict the main liabilities of banking institutions (Kurawa & Garba, 2014).

Nevertheless, these loans have been noted to come with risks (Cornett & Saunders, 2005). Kinyua (2017) avers that in the event that a bank offers bad loans to its clients or customers, such a bank will be in danger if those loans will not be settled. The bank will not be in a position to record profits since most of bank's income comes from interest streams generated through loans and the bank risks running into financial crisis if such loans are not properly managed (ibid). This depicts how essential the administration of credit risk is when it comes to bank loans. Mavhiki, Mapetere & Mhonde (2012) cited that the management of credit concerns the rewards and menaces that need to be objective through thoughtful and vigilant management of risk. Failure by banks to administer risk associated with credit may have legal consequences and might also result in economic loss as well as bad publicity of the bank's name which tarnishes the name of the bank (ibid).

Naomi (2011) shifted from a number of definitions provided by authors like Kanyua (2017) and Nyarko-Baasi (2018). According to Naomi (2011), credit risk connotes potential discrepancies in

the net income obtainable from non-payment and or deferred reimbursement of credit or loan facilities granted by lending institutions (banks) to their customers. The effective administration of credit risk is thus a critical aspect of a comprehensive stratagem risk administration and is critical when it comes to the long term triumph of any banking institution (Murigi & Thuo, 2018). Bank management need to know that they got an important task to carry out concerning lending since it includes the creation and administration of risky assets such as loans.

2.2.2 Non-performing Loans

According to Nyarko-Baasi (2018), non-performing loans (NPL) refers to the chances or likelihood of loan borrowers of not paying up the loans lend to them by banks. This extends to meeting loan part payments or not meeting the loan payment at all (ibid). Defaulting of loan payment by borrowers has detrimental effects on the financial performance of banking institutions and on the overall economic growth and progress of a country (Kinyua, 2017; Nyarko-Baasi, 2018 and Noor, Das & Banik, 2018). This explains why banking institutions of any country operate under the supervision and surveillance of their respective Reserve Banks. The performance of banks has an impact on the overall economic activity and if not monitored and controlled, serious economic crises can hit a country (Noor et al, 2018).

Agu & Okoli (2013) and Kavwanyiri & Mutua (2017) defines non-performing loans as the incompetence of borrowers to reimburse their loans together with their interests within the indicated repayment time which results in detrimental effects on the financial performance of the loaning institution. Chelegat (2012) and Awunyo-Vitor (2013) noted that by the time non-performing loans are said to be bad loans, there is a lot of alarm that the loan amount together with the interest owed by borrowers might not be recovered and this a major threat on the effective operation of the banks.

2.3 Underpinning theories

The theoretical basis of this study shall focus on the Agency Theory and the Asymmetric Information Theory.

2.3.1 The Agency Theory

This theory depicts the relationship that subsists between an agent and a principal (Murigi & Thuo, 2018). The theory was developed by Jensen and Mecklang in 1976 when the authors looked at the configuration of firm (Ndung'u, Okibo & Nyang'au, 2015 and Murigi & Thuo, 2018). Agency theory studies the dilemma which is faced by the principal and the agent given that even if these two are working toward the same goal, they do not necessarily share the same interests (Murigi & Thuo, 2018). Delves & Patrick (2000) postulate that literature concerning agency theory mainly focus on approaches and procedures and the circumstances that often arise in trying to align the interests of the agency to that of the principal or vice versa. Such circumstantial issues have been termed "principal-agency problem" (Murigi & Thuo, 2018).

The agency relationship has been defined from varying angles. (Murigi & Thuo, 2018) sees agency relationship as that relationship which subsists between one or many people (principal) and the other individual or group of individual (agent) engaged by the former to conduct some service on their behalf which in all cases involves the delegation of decision making power to the agent. Kanyore, Ali & Kingi (2017) views agency relationship as that which exists between the people owning means of production (principal) and people employed by these resource owners to manage and control the resources (agency). The simplest form depicting the agency relationship is that subsisting between an employer and an employee (Kanyore et al., 2017 and Murigi and Thuo, 2018). There are other kinds of relationships in business depicting the agency relationship. The relationship that subsist between a borrower (agent) and a lender (principal) or between citizens (principal) and the voted representative (agent) or between business shareholders (principal) and the Chief Executive Officer (CEO) (agent) all depict the agency relationship in business (Murigi & Thuo, 2018).

The agency theory comprises of an interconnection of contracts subsisting between those who own economic resources (principals) and those whom such owners contract to administer and control the economic resources on their behalf (agents) who in this case are the business managers (Kanyore et al., 2017 and Murigi and Thuo, 2018). Thus, the agency relationship can be equated to the contract between two or more people in which one of these acts on behalf of the other one. This is also supported by Kanyore et al. (2017) who further states that agency

relationship is a contract either implicit or explicit where one or more people engage the service of another person or the services of other people to perform such services on their behalf. Therefore, the agency theory addresses everything pertaining to the contract subsisting between the principal and the agent in areas where these are to cooperate were duties and responsibilities are delegated (ibid).

Murigi & Thuo (2018) posit that agents tend to possess more information compared to principals and this result in the inability of principals to effectively monitor whether their business interests are being correctly attended to by the agents. This lack of valuable information by principals which is highly possessed by agents is known as information asymmetry and it has negative effects mainly on principals (ibid). Agents in this case might use the information to further their own interests at the expense of the principals. As such, Ndung'u et al. (2015), Kanyore et al. (2017) and Murigi & Thuo (2018) noted the need for firms to put in place certain mechanisms aimed at monitoring, controlling and maintaining the behaviour of agents such so that they do not venture in activities which put the interests of their principals into danger.

An inclusive contract between the principal and the agent is written in an attempt to harmonise and address the interests of both the principals and those of the agents and this minimises the opportunistic behaviour of agents where they are limited to conduct or engage into activities as specified in the contract (Murigi & Thuo, 2018). Jussi & Petri (2004) also confirms the writing of an inclusive contract by both the principal and the agent and further asserts that the agent-principal relationship is further fortified by the employment of auditors and other control mechanisms to control and govern the activities of the agents.

Furthermore, the agency theory recognises that any information asymmetry concerning the relationship and interests or work conduct of agent apart from that described from the contract signed could result in moral hazards and adverse selection leading to adverse effects on firm performance as well as its image (Murigi & Thuo, 2018). According to Murigi & Thuo (2018) and Kinyua (2017), adverse selection and moral hazards affects the conduct of business of agents in two ways that is, not having the obligatory knowledge concerning what need to be done and not doing precisely what the agent is contracted and to do. Therefore, the agency theory works

on the supposition that both principals and agents act logically and utilise contracting to improve on their wealth (Murigi & Thuo, 2018).

The agency theory is applicable to the present study in that internal control is among many of the instruments employed in corporates to address the principal-agency problem through reduction of agency costs that distress the overall business performance as well as eroding the benefits of principals (Kinyua, 2017 and Murigi & Thuo, 2018). Internal monitoring augments the provision of superfluous information to shareholders (principals) concerning the manner in which the agent (management) is acting on their behalf thereby reducing information asymmetry, lowering investor risk and revenue as well (ibid). Authors like Gakure, Ngugi, Ndwiga & Waithaka (2012), Isanzu (2017), Kinyua (2017) and Murigi & Thuo,(2018) who explored the concept of credit risk management as an independent variable in their studies are contented that the administration of credit risk together with early corrective action on failing credits which is handled by the agents and principals as postulated by this theory is crucial and is what this study seek to evaluate thereby making the agency theory very relevant and applicable to this study.

2.3.2 The Imperfect information Theory

According to Auronen (2003), the imperfect information theory is also known as the theory of asymmetrical information. Imperfect information refers to circumstances under which agents in certain trade holds information while some other agents within the same trade do not have that information (Isanzu, 2017 and Murigi & Thuo, 2018). According to Auronen (2003), imperfect information ascends when borrowers have great information concerning their financial status than their lenders who happen to be banks in this case. It is however difficult if not impossible for banks to distinguish between good and bad borrowers (ibid). This attributed to the fact that lenders find it cumbersome and impossible to know whether a borrower will default or is likely to default (Kinyau, 2017). Murigi & Thuo (2018) noted that lenders try to counter this issue by observing at the past credit history of the borrower and other source of evidence that might be contained in cash flows.

Information that banks obtains from assessing borrower past credit history is very limited (Kipyego, 2013). The information asymmetry theory postulates that the individual that holds more information concerning a particular item to be transacted who in this case is the borrower,

is in a situation to discuss precise terms for that particular transaction as compared to the other part, the lender (Kipyego, 2013 and Murigi & Thuo, 2018). This is supported by Gakure et al. (2012) and Kinyua (2017) who concurs that the party holding incomplete information pertaining to the precise transaction to be performed can make a correct or incorrect decision regarding the transaction. Kipyego (2013) avers that information asymmetry results in adverse selection such that the party possessing less information about a transaction to be concluded (the lender) makes an incorrect conclusion and ends up loaning to a borrower whom he or she could not have loaned to provided there was perfect information.

Murigi & Thuo (2018) further noted that the problem of adverse selection gestures that when loaners or lenders cannot differentiate between bad and good borrowers, in such instances they are likely to levy normal and equal interest rate. Onuko, Muganda & Musiega (2015) are contented that if this interest rate is very high what worthy borrowers deserve, then it will punish good borrowers and force them out from borrowing from the banks. This will result in banking increasing the interest rate further higher to the few remaining borrowers in an attempt to make a profit (ibid). Thus, adverse selection can result in disastrous effects that can result in banks with no any borrowers. In the event that the interest rate is lower than the normal rate, banks will be faced with high numbers of borrowers and therefore risk running a loss as well (Murigi & Thuo, 2018).

Onuku et al. (2015) postulated that only if borrowers were to provide true and perfect information concerning their financial position to lenders during the time they will be seeking credit, then banks (the lenders) would be in a better position to make knowledgeable loan decisions and this reduces the risks that are associated with credit or loaning out. Murigi & Thuo (2018) noted that when banks lower the risks that are associated with credit, the level of non-performing loans is reduced and this improves the quality of their good portfolio. Other authors like Kinyua (2017) and Isanzu (2017) also share the same sentiments with Murigi & Thuo (2018) and further postulate that if lenders (the banks) could make more effort in ensuring that they acquire all the pertinent information from borrowers during the credit assessment process, then the credit risk that is linked with such borrowers could be reduced.

The above makes the imperfect information theory relevant to this study in that the theory concluded that lack of proper administration of credit risk often result in heightened credit risk due to the inability of banking institutions to obtain all the pertinent information regarding borrowers. This results in the granting of loans to borrowers who do not deserve such loans (Murigi & Thuo, 2018). This has been noted earlier own to having detrimental effects on the loan performance and the overall bank performance (ibid). Proper and sound administration of credit risk would therefore imply loaning to the right borrowers and this would depict a positive association between proper administration of credit risk and the performance of loans (Gakure et al., 2012; Kurawa & Garba, 2014; Noor et al., 2018 and Murigi & Thuo, 2018).

Authors such as Gakure et al. (2012), Kurawa & Garba (2014), Kavwanyiri & Mutua (2017), Noor et al. (2017) and Murigi & Thuo (2018) who looked at the effects of credit risk administration on the performance of loans in diverse countries applied the information asymmetry theory. In line with previous studies cited above, the present researcher also utilises the imperfect information theory in examining the effects of credit risk administration on nonperforming loans in the commercial banking sector in Zimbabwe.

2.4 The credit risk management process

Kinyua (2017) looked at how the management of credit risk influence the performance of loans in the commercial banks of Kenya. The author used credit risk identification, measurement, monitoring and control as proxies of credit risk management whilst the performance of loans was measured using the ratio of NPL to total bank loans. Kinyua (2017) carried out a census that saw the target population of 86 branch managers, credit officers and credit administrators drawn from commercial banks in Kenya. It was established that credit risk identification, measurement, monitoring and control done by credit administrators, credit officers as well as bank branch managers has a substantial influence on the way loans of commercial banks perform.

Murigi and Thou (2018) highlighted that the credit risk management process comprises four stages. These stage are Credit risk identification, credit risk measurement, and credit risk monitoring and credit risk control. The sections below describe each of the stages. Isanzu (2017) argued that banks must follow every step in order to administer credit risk effectively.

2.4.1 Credit Risk Identification

The first stage in risk administration is to identify the sources of those risks (Karawa & Garba, 2014). The identification of risk is very crucial for the effective administration of such risk (Gakure et al., 2012). For banking institutions to be in a position to administer credit risk effectively, bank management personnel need to know and understand well what risks do their bank face (ibid). Murigi & Thuo (2018) postulated that it is imperative for banks not to miss out any risks during risk identification. This is because any miss out has detrimental effects on the performance of credit and this also affect the profitability of the bank negatively.

Banks can utilise a number of techniques in identifying credit risk. Gakure et al. (2012) postulated that the first step in systematizing the operation of the risk administration function is the establishment of critical observation points both in and outside the corporate. Kromschroder & Luck (1998) are contented that after the establishment of critical observation areas, corporates then need to assign the departments as well as the employees diverse responsibilities aimed at identifying certain precise risks. For example, the interest rate risk and or the foreign exchange rate risk are the key domains of the financial department therefore the financial department can be assigned to identify these types of risks specifically (Karawa & Garba, 2012). This present study seeks to assess the impact of credit risk identification on nonperforming loans in the Zimbabwean commercial banking sector.

2.4.2 Credit Risk Measurement

Having identified the risks facing the banking institution, the next stage is to put into place mechanisms aimed at measuring and mitigating the identified risks. Gakure et al. (2012) cited that there are many conceptual researches which have made significant progress towards risk investigation and calculation. It is of paramount importance for banking institutions to practically categorise credit risks in accordance to the degree of damage they may cause (ibid). Risk categorisation aids management to identify and distinguish risks that threatens the effective operation of the banking institution from those that merely cause light damage (Murigi & Thuo, 2018). Kinyua (2017) noted that banks need to address first those risks that pose a major threat on the operational effectiveness of the bank as these can have serious devastating effects on the profitability and image of the bank as well.

There is an inverse association between the projected amount of loss and its relative corresponding possibility. This is because risks that cause high devastating effects on corporates such as fire or earthquakes rarely occur whilst those risks that cause light damage like the foreign exchange risk or interest rate risk occurs on a daily basis (Gakure et al., 2012 and Karawa & Garba, 2014). Although risks that occur on a daily basis cause relatively petty losses, it has been noted that these too need to be well managed since they can cause serious harm to corporations at times (ibid).

Al-Tamimi & Al-Mazrooei (2007) depicted that banks in United Arab Emirates (UAE) are very efficient in measuring and quantifying risks. The same authors also postulated that there are substantial disparities between United Arab Emirates national banking institutions and other foreign owned banks when it comes to practical risk exploration and calculation. Risk analysis and assessment have also been noted to be influencing current credit risk administration practices (Gakure et al., 2012). Risk measures are not solely used for the purpose of risk control as purported by Drzik (1995). Risk measurement is also utilised in measuring bank performance and for pricing purposes (Murigi & Thuo, 2018).

An inclusive credit risk measurement and alleviation procedures for diverse risk that arise from financing actions is explained by Sundararajan (2007) who concludes that the employment of modern mechanisms to the measurement of risk, predominantly credit and generally other forms of banking risks is very critical for banks. There has been a suggestion that banks need to espouse new credit risk measurement procedures which are particularly essential to banks given the role they play in different mixtures of risks associated with financial contracts (ibid). The present study seeks to assess the influence of credit risk measurement on non-performing loans in the Zimbabwean commercial banking sector.

2.4.3 Credit Risk Monitoring

One of the critical functions of risk managers is to monitor credit risk (Murigi & Thuo, 2018). It is also the duty of the credit risk manager to identify possible events that could negatively impact on the corporate's credit portfolio as well as the aptitude of the bank to withstand those events. Most risk managers monitor areas that have to do with industrial changes, market and liquidity conditions. Risk monitoring can be employed in making sure that administration practices are in

line and appropriate risk monitoring further aids bank management team to ascertain mistakes whilst they are at an early stage (Al-Tamimi & Al-Mazrooei, 2007). Gakure et al. (2012) noted that effective management of credit risk involves a recording and assessment structure aimed at ensuring that credit risks are effectively recognised and examined and also that applicable control measures are put in place.

According to Pausenberger & Nassauer (2002) as cited in Gakure et al. (2012), monitoring forms the last stage in the management of credit risk within a corporate. Corporate shareholders can employ their rights and demand data for them to measure and monitor the efficiency of the risk administration procedure (Parrenas, 2005). Gakure et al. (2012) and Murigi & Thuo (2018) concurs that the company's director report allows shareholders to examine the position of the corporate knowledgably and comprehensively. A study by Khan & Ahmad in 2001 which explored the management of credit risk revealed that credit risk monitoring had the lowest percentage score of 69% as compared to risk administration policies which accounted for 82.4% while credit risk control had a percentage score of 76%.

Al-Tamimi & Al-Mazrooei (2007) revealed momentous distinction between United Arab Emirates national and foreign bank institutions in credit risk monitoring. Efficient risk monitoring mechanisms have been argued to have a positive influence on risk administration practices (ibid). Interest rate risk has been cited to be one of the areas of major concern for risk monitoring and administration traditionally by banks (Gakure et al., 2012; Kurawa & Garba, 2014 and Murigi & Thuo, 2018).

Authors such as Gakure et al. (2012), Karawa & Garba (2014), Isanzu (2017), Kinyua (2017), Kavwanyiri & Mutua (2017) and Murigi & Thuo (2018) who looked at the management of credit risk by banking institutions examined how credit risk monitoring influence the whole credit administration process. This present study seeks to analyse the effects of credit risk monitoring on non-performing loans in the Zimbabwean commercial banking sector.

2.4.4 Credit Risk Control

Gakure et al. (2012) noted that banks should have written procedures on the credit sanction and the endorsement experts of individuals as well as the foundation of those decisions. Credit

approval experts should be endorsed by the banks' board of directors. The duties of the credit approval specialist relates to new loan approvals, renewals of present loans, and alterations in terms and conditions of previously approved loans, precisely loan restructuring of which all should be wholly well documented and verified (Kurawa & Garba, 2014; Kinyua, 2017 and Murigi & Thuo, 2018). Practical credit management practices entail that individuals who are sanctioned with credit control need not to have the client relationship responsibility (Gakure et al., 2012). They need to be commensurate to their positions within the administrative ranks and also their expertise.

Corporate stakeholders have been noted to have some degree of confidence in their firm's pellucidity through accountability and dependable information which is imposed through effective internal control mechanisms (Al-Tamimi & Al-Mazrooei, 2007). Thus, in as much as business stakeholders would want transparency to prevail within corporates, credit risk control mechanisms should be devised by the board of directors and then empowers particular specialised individuals to control credit risks. Negera (2012) depicted that credit risk control mechanisms are a crucial component of the credit risk administration which positively influence the performance of credit. Furthermore, Negera (2012) cited that credit default is mainly attributed to weak credit control mechanisms within banking institutions as well as a direct consequence of poor credit valuation, failed credit monitoring, weak credit culture and compassionate credit terms and conditions. Ahmed & Malik (2015) avers that while credit risk control mechanisms are important in ensuring effective credit performance, findings by these researchers depicted positive and insignificant influence of credit risk control on loan performance.

2.5 Non-performing loans (NPL)

In another study, Nyarko-Baasi (2018) examined how NPL impact on the profitability of listed banks in Ghana. The author utilised secondary information that was collected from annual financial reports of the commercial banks covering a period of 10 years starting from 2006 up to 2015. The research used capital adequacy ratio (CAR) and nonperforming loan ratio (NPLR) as major explanatory variables whilst return on equity (ROE) was employed as a measure of profitability of banks. Nyarko-Baasi (2018) examined collected information using E-views

software. Findings from that study revealed momentous negative impact of NPLR on profit performance of Ghanaian commercial banks whilst CAR depicted a substantial positive association with profit performance of these commercial banks.

Murigi & Thuo (2018) explored how administration of credit risk influences the performance of loans in micro-finance institutions in Kenya. The authors adopted a survey design that saw them administering questionnaires to a sample frame consisting of 60 respondents who were purposively drawn for 12 micro-finance institutions in Kenya. Credit risk environment, appraisal methods, administration, measurement, monitoring and internal control were employed as proxies of CRM whilst the ratio of NPL to total loans was utilised as a measure of the performance of loans. Descriptive and inferential statistics pertaining to the collected data were computed using SPSS. Findings depicted substantial and constructive influence of credit risk environment, appraisal methods, administration, measurement, monitoring and internal control on the performance of loans in Kenyan micro-finance institutions.

Close scrutiny of the above empirical studies reveals gaps that the present study intends to fill. No empirical study seems to have been undertaken in Southern Africa particularly in Zimbabwe exploring how CRM influence on NPL in the banking sector. Most authors examined the link between CRM and profitability measures like ROA and ROE with few authors exploring how the concept of CRM impact on the performance of loans. There has been no standard measure of CRM and this does not give a true and fair comparison of findings. This present study intends to examine how CRM affect NPL in Zimbabwean commercial banks focusing on credit risk identification, measurement, monitoring and control.

Most of the revenue for banking institutions comes from loans (Kavwanyiri & Mutua, 2017). This is mainly because when banks loans out, borrowers pay an interest on the amount of the loan they would have borrowed (ibid). The performance of bank loans is of major concern since it determines the overall performance of the banking institution and such loans are also monitored by Central Reserve Banks because they also have an impact on economic growth and development (Nyarko-Baasi, 2018 and Murigi & Thuo 2018).

Kavwanyiri & Mutua (2017) noted that bad loans need to be evaded at whatever cost due to their effects which are multidimensional. Bad loans do not only affect the profitability of banking institutions only but lowers economic growth through declined lending to other productive sectors as a result of low funds by banks to loan out (Appiah, 2011; Gakure et al., 2012; Awunyo-Victor, 2012; Kavwanyiri & Mutua, 2017, Nyarko-Baasi, 2018 and Murigi & Thuo, 2018). According to Karim, Chan & Hassan (2010) and Kavwanyiri & Mutua (2017), the effect of non-performing loans on banking institutions is that cumulative bad loans hinders financial progressions of banks and this slows down economic growth of a country. Non-performing loans deprive banks of the required liquidity and restricts their aptitude to fund other possibly sustainable businesses and make loan services available to other individuals (ibid).

Nyarko-Baasi (2018) postulated that financial organisations around the globe face numerous risks of non-performing loans. It is therefore sensible for these organisations to implement monitoring instruments in an attempt to follow on the activities of borrowers so that they do not default payment. This calls the increased need and importance of the management of credit risk mostly in developing nations for both debtors and creditors (ibid). The never ending global economic crises have been noted to be worsening the average bank asset quality of late (Kinyua, 2017; Murigi & Tho, 2018 and Nyarko Baasi, 2018). Nyarko-Baasi (2018) argues that the poor performance of loans varies within countries. This is possibly due to diverse credit control mechanisms instituted by loaning institutions and also by the extent to which the respective Reserve Bank for that particular lending institution monitors them (ibid).

According to the Basel Committee (2001), under performing loans connote the likelihoods of a debtor defaulting to an unpaid credit partly or in full. This is supported by Ahmad & Ariff (2007) who postulated that non-performing credit is the percentage of credit that is not reimbursed within a period of three months following its issue. Nyarko-Baasi (2018) and Murigi & Thuo (2018) emphasised on the need for credit risk administration practices to be implemented due to increasing under performance of loans or credit considering that these brings unfavourable outcomes on the attainment of the banks' core targets. A number of factors such as the lending rate, credit risk management and share prices have been noted to substantially influencing the performance of loans in most banking institutions around the globe (Basel Committee, 2001; Ahmad & Arrif, 2007; Kinyua, 2017; Murigi & Tho, 2018 and Nyarko Baasi, 2018).

It has been noted that under performing loans have severe effects on banks' functionality. Balasubramaniam (2013) argues that dealing with non-performing loans takes crucial role of the managements' effort and time to the disadvantage of other important bank activities since management team could have been involved in other productive activities to fetch improved return with the time and effects that could have been wasted on under performing loans. Since banks do not earn any income streams on non-performing loans, they end up losing assets, and also spending unnecessary money when they institute particular departments and hire specialised financial engineers so that they can deal with this issue of non-performing loans (ibid). Thus, non-performing loans are a menace to the operations of banking institutions. Furthermore, under performing loans block revenue which induces banks to borrow and this yields extra costs to the financial institution and also becomes a reputational risk to the bank (Balasubramaniam, 2013; Kinyua, 2017 and Nyarko-Baasi 2018). Balasubramaniam (2013) is therefore contented that if financial institutions face the problem of underperforming loans, it adversely affects their respectable standing position and therefore merging with other financial or non-financial institutions to take benefit of improved business opportunities will be crucial.

Klein (2013) and Nyarko-Baasi (2018) argues that the study of the influence of credit risk administration on underperforming loans of financial institutions is important because it affect the financial intermediation function of commercial banks around the globe which is the key source of revenue to financial institutions and ultimately to the financial constancy of economies. As a result, the issue of underperforming loans have progressively drawn courtesy with the acknowledgement that a result of high non-performing loans ratio for on the books of a financial institution depicts clearly the degree of inoperativeness of the economy (Nyarko-Baasi, 2018). Balasubramaniam (2013) and Klein (2013) argue that this is mainly because financial institutions gauge their profitability, among other factors, by the degree of credit recoupment and failure to do likewise, negatively impact on their performance. This is supported by Khemraj & Pasha (2012) who avers that high percentages of non-performing loans ratios are highly associated with financial institutions' performances particularly in developing economies. Nyarko-Baasi (2018) and Murigi & Thuo (2018) also linked financial institutions' high underperforming loans accumulation with their profit performance and noted that non-performing loans can severely contribute towards probable financial misery.

Zimbabwean banks have been experiencing high NPLR and this was one of the major reasons why Royal Bank was liquidated (Joseph, Edson, Manuere, Clifford & Michael, 2012). Authors such as Joseph et al. (2012) revealed that outside issues are more proliferating in instigating underperformance of loans in Zimbabwean banking institution like government policy and the veracity of the debtor. Given the much alluded emphasis on credit risk administration by authors such as Basel Committee (2001), Ahmad & Arrif (2007), Kinyua, 2017; Murigi & Tho (2018) and Nyarko Baasi (2018), this study seeks to examine the influence of credit risk administration on non-performing loans in the Zimbabwean commercial banking sector.

2.6 The impact of credit risk management on non-performing loans

This section provides literature on the impact of each variable (credit risk identification, credit risk monitoring, credit risk measurement and credit risk control) on non- performing loans.

2.6.1 The impact of credit risk identification on non-performing loan ratio

Authors who have explored the impact of credit risk management on the performance of loans concurs that risk identification is very crucial in noting diverse risks that might pose threats to the effective performance of loans (Gakure et al., 2012; Kinyau, 2017 and Murigi & Thuo, 2018). Murigi & Thuo (2018) postulated that it is imperative for banks not to miss out any risks during risk identification. This is because any miss out has detrimental effects on the performance of credit and this also affect the profitability of the bank negatively. Credit risk identification has been found to be positively correlated to the performance of loans by authors like Gakure et al. (2012), Kinyau (2017) and Murigi & Thuo (2018).

2.6.2 The influence of credit risk measurement on non-performing loan ratio

The measurement of credit risk has been noted to be very critical in the management of credit risk (Gakure et al., 2014 and Murigi & Thuo, 2018). This necessitates banks to separate risks that have greater impact on the performance of loans from those that cause light damage (ibid). Authors such as Gakure et al. (2012), Kavwanyiri & Mutua (2017), Kinyua (2017) and Murigi & Thuo (2018) who have explored the influence of credit risk administration on nonperforming loans in various countries found credit risk measurement as being positively associated to the performance of loans.

2.6.3 The effect of credit risk monitoring on non-performing loan ratio

It has been noted that it is the duty of the credit risk manager to identify possible events that could negatively impact on the corporate's credit portfolio as well as the aptitude of the bank to withstand those events (Murigi & Thuo, 2018). Risk monitoring can be employed in making sure that administration practices are in line and appropriate risk monitoring further aids bank management team to ascertain mistakes whilst they are at an early stage (Al-Tamimi & Al-Mazrooei, 2007). Gakure et al. (2012) noted that effective management of credit risk involves a recording and assessment structure aimed at ensuring that credit risks are effectively recognised and examined and also that applicable control measures are put in place. Authors such as Gakure et al. (2012), Kavwanyiri & Mutua (2017), Kinyua (2017) and Murigi & Thuo (2018) who investigated the impact of credit risk administration on underperforming loans revealed that credit risk monitoring has substantial positive effects on alleviating under performing loans.

2.6.4 The link between credit risk control and non-performing loan ratio

Murigi & Thuo (2018) noted that for credit risk management practices to be effective, there must be internal credit risk control mechanisms in place. A study by Negera (2012) in Ethiopia which evaluated the causes of non-performing loans in banks depicted that weak internal credit risk control systems leads to underperformance of loans. Ahmed & Malik (2015) found a positive but insignificant impact of credit risk control on the performance of loans. Other authors such as Gakure et al. (2012), Kavwanyiri & Mutua (2017), Kinyua (2017) and Murigi & Thuo (2018) found positive and significant influence of credit risk control on the performance of loans in various countries across the globe.

2.7 Empirical Literature On Credit Risk Management And Nonperforming Loans

Studies concerning the impact of credit risk administration on underperforming loans have been widely undertaken across the whole globe. Nevertheless, there is a convergence on the need and significance of credit risk administration practices by financial institutions so as to lower the ratio of underperforming loans (Nyarko-Baasi, 2018 and Murigi & Thuo, 2018).

Fredrick (2012) assessed the impact of credit risk administration on the financial performance of Kenyan banks. A causal design was adopted together with quantitative techniques. Capital adequacy, asset quality, management efficiency, earnings as well as liquidity were employed as independent variables whilst ROE was used to measure the financial performance of the banks used in the study. The independent variables referred to the CAMEL rating elements. Data for the study was collected from secondary sources and examined through SPSS. Regression analysis was computed to establish the nature of impact of the administration of credit risk on the profit performance of banking institutions in Kenya and the findings were presented on tables. Findings depicted that management efficient, capital adequacy, asset quality and liquidity had weak association with the financial performance of the banks whilst earnings depicted a strong correlation with banks' financial performance. The authors suggested that the CAMEL rating model can be employed as a proxy for credit risk administration. The study however failed to recognise the influence of internal control on banks' financial performance.

Gakure et al. (2012) explored the effects of credit risk administration techniques on non-performing loans in Kenya. The aim of the study was to investigate the influence of the administration of credit risk techniques on the performance of unsafe loans,in the Kenyan commercial banking sector. Credit risk identification, analysis and appraisal, monitoring and approval were employed as elements of credit risk administration techniques whilst non-performing loan ratio was employed as a proxy to unsecure loans. Quantitative methods were employed and a descriptive survey design was applied. The study made use of primary data that was gathered using a structured questionnaire from a sample of 39 respondents drawn from the management of commercial banks in Kenya. The gathered data was examined through SPSS and findings depicted on tables. Findings depicted that credit risk identification, analysis and appraisal, monitoring and approval positively influence the performance of unsecured loans in Kenyan commercial banks.

Poudel (2012) assessed the management of credit risk influences financial performance of banks in Nepal. The author used Capital Adequacy Ratio (CAR), Default Rate (DR), and Cost per Loan Asset (CLA) as proxies for credit risk administration whilst various profitability indicators were employed as measures of financial performance of banks. Secondary data was gathered from 31 financial institutions in Nepal covering a period of 11 years from 2001 to 2011. Data collected

was analysed through SPSS where descriptive statistics, correlation analysis and regression analysis were employed to analyse the data. Findings revealed that that DR, CAR and CLA had inverse influence on the financial performance of banks in Nepal. The study depicted that the management of credit risk is very crucial in determining the financial performance of banking institutions. The authors recommended that banks need to focus on the administration of credit risk if they are to succeed financially.

Kurawa & Garba (2014) evaluated the effects of credit risk administration on the profit performance of Nigerian banks. The authors aimed at analysing the effects of the default rate, capital adequacy ratio and cost per loan asset on return on assets (ROA). The authors thus employed default rate (DR), capital adequacy ratio (CAR) and cost per loan asset (CLA) as measures of credit risk management whilst ROA was employed as a proxy to banks' profit performance. Secondary data was collected from banks annual reports covering a period of 10 years from 2002 to 2011. Data was examined through SPSS where generalised least squares (GLS) regression, descriptive statistics, and correlation analysis were employed as analysis tools. Findings depicted that CAR, DR and CLA have positive and substantial effect on ROA of commercial banks in Nigeria. The researchers recommended that banking institutions should practice scientific risk evaluation procedures in credit risk evaluation and administration of loan portfolios so as to minimise high frequencies of underperforming loans as well as their adverse effect on banks' profit performance.

Isanzu (2017) explored how the concept of credit risk administration affects the performance of Chinese banks. The author gathered secondary data from the top five biggest commercial banks in China covering a time frame of seven years from 2008 up to 2014. NPL, capital adequacy ratio, impaired loan reserve as well as loan impairment levies were utilised as proxies of credit risk management while return on asset (ROA) was employed as financial performance measure. Isanzu (2017) examined the collected data through regression models computed using SPSS software. Findings revealed that NPL and capital adequacy ratio has substantial positive influence on the performance of commercial banks in China and cited the need for such banks to monitor and control their credit risk.

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Kavwanyiri & Mutua (2017) conducted a study in Kenya that looked at how banks' credit policy affect the performance of loans in commercial banks. The study was conducted on the background that bad loans were the major causes of banks' failure in the Kenyan commercial banking sector. As such, these authors aimed at examining the effects of banks' credit policy on non-performing loans within commercial banks. Quantitative approach was adopted and a descriptive survey design was applied. Secondary data was gathered from 43 registered commercial banks covering a period from 2010 to 2014 and was examined through SPSS in which both regression analysis and correlation analysis were used to establish the nature of the association between the used variables. Loan loss provision was used as an explanatory variable while the ratio of non-performing loans to total banking loans was used as a measure of non-performing loans of the commercial banks employed in the study. Results showed that credit policy of commercial banks in Kenya has a significant adverse effect on non-performing loans. The researchers suggested that commercial banks should develop strong credit mechanisms and guidelines in an attempt to lower the ratio of underperforming loans. It was also recommended that commercial banks need to institute credit risk administration practices that includes inauguration, endorsement, monitoring and problem administration tailored in such a way that it meet the needs of each banking institution.

Kinyua (2017) looked at how the management of credit risk influence the performance of loans in the commercial banks of Kenya. The author used credit risk identification, measurement, monitoring and control as proxies of credit risk management whilst the performance of loans was measured using the ratio of NPL to total bank loans. Kinyua (2017) carried out a census that saw the target population of 86 branch managers, credit officers and credit administrators drawn from commercial banks in Kenya. It was established that credit risk identification, measurement, monitoring and control done by credit administrators, credit officers as well as bank branch managers has a substantial influence on the way loans of commercial banks perform.

Agić & Jeremić (2018) explored macroeconomic and other precise elements of under-performing loans in Bosnia and Herzegovina. The purpose of the study was to identify macroeconomic and precise banking elements that affect the rate of underperforming loans within Bosnian and Herzegovinian banking sector. The authors collected secondary data from the Central Bank, Agency for Statistics and Labour and Employment Agency of Bosnia and Herzegovina between

the periods 2006 to 2016. SPSS software was utilised in examining data. Both descriptive and inferential statistics were employed analysing the collected data and the findings were depicted on tables. Empirical results from the study depicted a correlation credit growth rate, profitability and non-performing loans. However, the relationship between growth rate, capital adequacy rate, profitability and lending interest rate was not statistically significant.

Murigi & Thuo (2018) explored how administration of credit risk influences the performance of loans in micro-finance institutions in Kenya. The authors adopted a survey design that saw them administering questionnaires to a sample frame consisting of 60 respondents who were purposively drawn for 12 micro-finance institutions in Kenya. Credit risk environment, appraisal methods, administration, measurement, monitoring and internal control were employed as proxies of CRM whilst the ratio of NPL to total loans was utilised as a measure of the performance of loans. Descriptive and inferential statistics pertaining to the collected data were computed using SPSS. Finding depicted substantial and constructive influence of credit risk environment, appraisal methods, administration, measurement, monitoring and internal control on the performance of loans in Kenyan micro-finance institutions.

Noor, Das & Banik (2018) examined the impact of loan risk administration on the financial performance of banking institutions in Bangladesh. The researchers used return on investment (ROI), ROE and ROA as measures of banks' profit performance whilst the percentage of classified loans (POCL) was used as a proxy to credit risk administration. The study made use of secondary data covering a period of 16 years from the year 2000 to the year 2015. The data was gathered from annual financial reports of the banks that were employed in the study. STATA software was used to examine data and findings were presented on tables. Findings revealed that POCL has a positive and substantial influence on ROA as well as on ROE in the long-run while no substantive impact was found to exist among these variables in the short run.

Nyarko-Baasi (2018) looked at the effects of underperforming loans on the profit performance of commercial banks in Ghana. The purpose of the study was to determine how underperforming loans affects profit performance of major financial institutions listed on the Ghana Stock Exchange. Secondary data covering the period from 2006 to 2015 was collected from the four banks employed in the study. Eviews software was used to examine the collected data.

Regression analysis was used to examine the relationship between credit risk and profit performance of the banks. Capital adequacy ratio and non-performing loans ratio were employed as explanatory variables whilst banks' profit performance was measured using return on equity (ROE). Findings depicted that non-performing loans ratio has an adverse effect on the profit performance of commercial banks in Ghana whilst capital adequacy ratio depicted a momentous positive association with banks' profit performance.

2.8 Literature gap

The above empirical studies show how important the management of credit risk is for banks. Authors such as Gakure et al. (2012), Kavwanyiri & Mutua (2017), Kinyua (2017) and Murigi & Thuo (2018) found the administration of credit risk as an important management practice that can be employed in alleviating under performing loans in banking institutions. Other researchers like Fredrick (2012), Poudel (2012), Kurawa & Garba (2014), Isanzu (2017) and Noor, Das & Banik (2018) concluded that the proper and effective management of credit risk is very instrumental in improving the financial performance of banking institutions. All this points that for banks to lower non-performing loans and improve on their financial performance credit risk management is at the centre stage.

The study seeks to give empirical evidence on the influence of credit risk management and non-performing loans in Zimbabwean Banks. The research bridges the gap in between existing literature and the environment Zimbabwean Banks operate in relation to credit risk management and non-performing loans.

2.9 Conceptual framework

A conceptual framework is a set of broad ideas and principles taken from relevant fields of inquiry and used to structure a subsequent presentation (Muddin and Marlrech, 2015). It is a tool intended to assist a researcher to develop awareness and understanding of the situation under scrutiny. It helps the research to explain the relationship among interlinked concepts such as the dependent and independent variables (Kombo, 2016). In this study, the researcher sought to establish the relationship between credit risk management and non-performing loans.

The study was based on the assumption that there is a significant relationship between the independent variables (Credit risk identification, credit risk measurement, credit risk monitoring, and credit risk control) and the dependent variable (Non-performing loans).

Independendent variables   **Dependent variable**

Credit risk identification

Credit risk measurement

Credit risk monitoring

Credit risk control

Non-performing loans
- Non-performing loan ratio
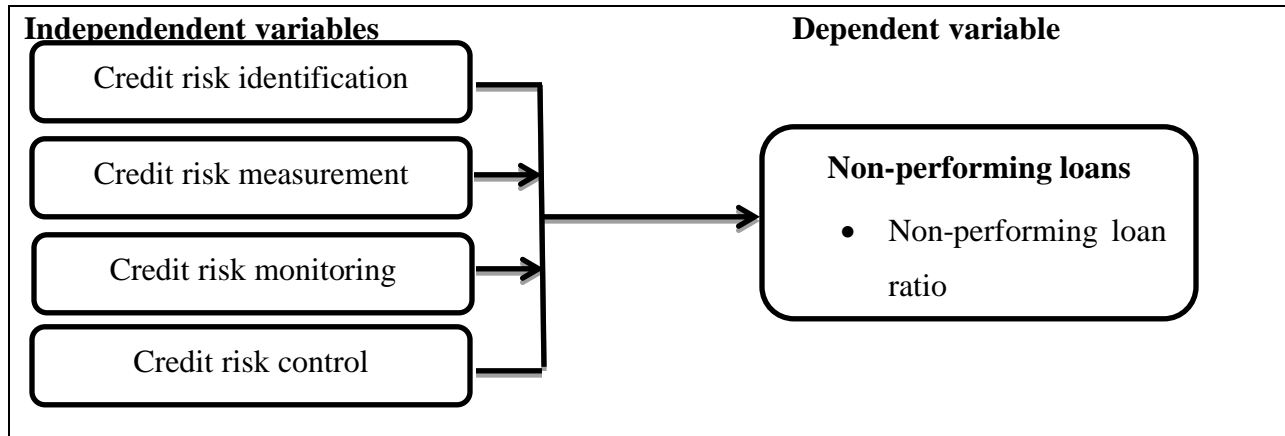
Figure 2.1: Conceptual Model

2.10 Chapter summary

This chapter has provided the literature review on credit risk management and non-performing loans. Theoretical literature was discussed and the theories that informed that study were agency theory and the imperfection information. Literature on the relationship between credit risk management and non-performing loans has shown that there is a positive influence between credit risk and non-performing. Vast literature was gathered from the developed western countries and in Africa. The researcher observed that there were no similar studies carried out in Zimbabwe.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter has provided literature on the influence of credit risk management on non-performing loans. This chapter provides the research methodology that was used in the study and the justification for choosing a particular method. The main focus of the research methodology is on the research design, the research philosophy, target population and sampling, data collection, analysis techniques, validity and reliability, limitations of the study and ethical considerations

3.2 Research objectives, questions and hypothesises

The main objective of the study was to analyse the influence of credit risk management on non-performing loans. The dependent variable of the study was non-performing loans and the independent variables were credit risk identification, credit risk measurement, and credit risk monitoring and credit risk control.

The specific objectives of this study were; to examine the influence of credit risk identification on non-performing loan ratio, to assess the influence of credit risk measurement on non-performing loan ratio, to analyse the effect of credit risk monitoring on non-performing loan ratio and to evaluate the link between credit risk control and non-performing loan ratio.

The research questions were; what is the influence of credit risk identification on non-performing loan ratio, what is the influence of credit risk measurement on non-performing loan ratio? What is the effect of credit risk monitoring on non-performing loan ratio? , and what is link between credit risk control and non-performing loan ratio?

The following were hypothesised:

H_1 Credit risk identification has a positive impact on the performance of loans.

H_2 Credit risk measurement has a positive influence on non-performance loan ratio.

H_3 There is a positive effect of credit risk monitoring on the performance of loans.

H₄   There is a positive link between credit risk control and non-performance loan ratio.

3.3 Research design

Saunders et al. (2009) defined a research design as a strategy that researchers employ in conducting a study. Kumar (2010) further stated that there are three main research designs that researchers can adopt. These are descriptive, exploratory or explanatory. Exploratory research helps in the understanding of the problem and it tackles new problems with which there are no previous studies or where little research has been done. An exploratory design is usually used when the research problem is in the preliminary stage and when the topic is new and it is usually performed through literature search and in-depth interviews. Exploratory was not used because it is qualitative in nature while quantitative methods are suitable for this study. Descriptive research describes the aspects of the study it does not show the causes of the situation because the variables to be studied are known already. Descriptive research design does not test the hypothesis (Yin, 2010). For this reason, descriptive was not used in this study.

An explanatory research was suitable in this study because it sought to analyse the influence of credit risk management on non-performing loans. The study sought to test the hypothesis on the relationship between   the four independent variables of the study (credit risk identification, credit risk measurement, credit risk monitoring and credit risk control) on non-performing loans.

3.3.1 Research Philosophy

Research philosophy signifies the development of knowledge and the nature of that knowledge (Saunders et al., 2009). The common research philosophies available for research are interpretivism, pragmatism and positivism.

This study adopted the positivism research philosophy. A positivist approach postulates that physical and social reality is independent of the individuals who observe it (Saunders et al., 2009). Positivism includes working with a noticeable social reality and the testing of hypotheses formulated from the existing hypothesis; thus, it is empirical in nature. To acquire valid

knowledge, positivism depends on quantitative methods, for example, surveys, experiments and statistical analysis (Clark and Johnson, 2009).

For this study, the positivist approach was suitable because this study sought to collect quantitative data and the research approach was highly structured. A positivist approach is associated with quantitative research and this type of research is factual, objective and the collected data can be measured. The research used a large sample to collect data from the banking sector. The aim of the study was to explain and recognise the statistical associations between variables under study and data was collected using a structured survey questionnaire.

The assumptions available for research are ontological assumptions, epistemological and axiological assumptions (Tuli, 2010). Ontological assumptions are concerned with the nature of reality and it can either be objective or subjective. Ontologically objective assumption state that there is only one truth or reality and subjectivism portrays that there is multiple truths or realities meaning that bank have different perceptions about credit risk management . For this study an objectively ontological view was held because the researcher wanted to generalize the findings to all banks , hence the belief of the researcher about the nature of reality that there is one truth or reality pertaining credit risk management and non-performing loans. Epistemological assumptions are concerned with how knowledge is acquired (objectively or subjectively) for example, should the researcher closely interact with the respondents or should she maintain a distance? For this study, the researcher chose to maintain a distance from the respondents in order to avoid bias. Axiological assumptions are concerned with the researcher's view on the importance of values and ethical issues, for this research there were no close interactions with the participants, no sensitive questions were asked and respondents were allowed to be anonymous.

3.3.2 Research Approach

The two main research approaches, according to Castellan (2010), are inductive and deductive. The deductive approach deals with the development of theory which is subjected to a rigorous test while the inductive approach is when the researcher develops a theory based on the outcome of the data analysis of collected data. The deductive approach emphasizes the collection of quantitative data whereas inductive approach emphasizes the collection of qualitative data (Glenn, 2010). The deductive approach uses the available literature to identify the theories and

ideas that the researcher is going to test using the collected data. This is where the researcher develops a theoretical or conceptual framework which will subsequently be tested using data. Qualitative research uses the inductive approach and is often exploratory, which means that there will be hypothesis-generating rather than hypothesis testing. The inductive approach is when the researcher explores data in order to develop theories which will be subsequently related to literature by the researcher. Quantitative research is deductive in nature since the researcher will be testing the hypotheses based on literature. Saunders et al (2012) pointed out that quantitative research allows the researcher to gain a generalizable set of data through the use of larger samples.

In this study, the researcher chose the quantitative research method. Quantitative research was suitable because the objective was to identify and develop hypotheses on the influence of credit risk management on non-performing loans. The pre-determined hypotheses were tested. The data collected from the survey was statistically analyzed so as to examine and quantify the relationships between the research variables. Since quantitative research is deductive in nature and it tests theoretical hypotheses to contribute to the scientific knowledge, the deductive approach was adopted for this study.

3.3.3 Research Strategy

Mullins (2013) defined a research strategy as the general plan regarding the way the researcher goes about answering research questions. For this study, the researcher adopted the most common and popular research strategy associated with a deductive approach which is the survey method. There are many strategies that can be used for research which include surveys, experiments, ethnography, case studies, action research and grounded theory. The research approach adopted by the researcher determines the choice of a strategy (Marpsat and Razafinratsima, 2010).

The researcher adopted a deductive approach for this study, therefore; a survey strategy is the most appropriate for this approach and since a huge amount of data was required to determine the relationship between credit risk management and non–performing loans in the banking sector, a survey was most suitable. Survey research involves the use of a standardized

questionnaire or interview to collect information about people's behavior, preferences and thoughts in a systematic manner. The survey can take the form of self-administered, group-administered and online or web administered survey. For this study, the researcher adopted a self-administered and online-administered survey to boost the response rate. Surveys in most cases are done using questionnaires and it was the appropriate strategy for the study because it enabled the collection of quantitative data which can be analyzed using various statistical techniques. According to Creswell (2012), a survey strategy is advantageous because it gives the researcher control over the research process and findings can be generalized. The use of the survey strategy presented some challenges for example; some respondents chosen for the sample were not willing to participate in the survey. The researcher administered as many questionnaires as possible to a bigger sample in order to compensate for any respondents shortage and making follow-up requests. The use of a survey requires a predetermined set of responses based on theory, this was a limitation since respondents were not able to express their feelings and experiences using their own words.

3.3.4 Research instrument

Research instrument refers to a measurement tool through which a researcher collects data from respondents for research work (Kumar, 2010). Methods that a researcher can adopt are questionnaires, interviews, observations, focus group discussions and experiments. The study used a questionnaire to collect data from the thirteen commercial banks in Harare.

3.3.4.1 Questionnaire

A questionnaire can be best defined as a file consisting series of questions harbouring the topic under study that is administered to research participants. The choice for the utilisation of a questionnaire in this research study follows the positivist philosophy, quantitative methodology, deductive approach and research strategy used. Also, the researcher considered the need to collect voluminous data over a short period of time and decided that a questionnaire was the most appropriate instrument after weighing all the afore-said factors.

The questionnaire that was used in this research study comprised of open and closed ended questions. Closed ended questions aided the researcher in collecting information that was easy to quantify and examine while at the same time such questions constricted the research participants to remain confined within the topic under research.

i) Questionnaire design

In this study, a questionnaire was designed by the suggestions of Acharya et al. (2010). In the opinion of the author, the questionnaire design was clear, concentrating on the proposed target of deciding the influence of credit risk management on non-performing loans. This was ascertained after a researcher had pilot tested the questionnaire to 15 respondents. After the pilot study, the researcher observed that the questions were long and some were ambiguous. The questionnaire was then adjusted by making simple, short and precise questions.

The first part of the questionnaire contained questions on the demographic information of the respondents. Demographic information of the respondents was important to determine the relevance of the respondents and their level of understanding of topic under study.

The next section contained questions on the independent variables which were influence of credit risk management identification, credit risk measurement, credit risk monitoring and credit risk control on non-performing loans. The last section contained questions on the dependent variable, non-performing loans).

The questionnaire was principally made out of close-ended questions of both the reality and discernment type, moored on a five-point Likert scale. The Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree). The respondents selected the scale which corresponded to their level of agreement or disagreement to a particular statement. The researcher used a Likert scale because it is the most appropriate way of collecting quantitative data and also it is fast and easy for respondents to understand and answer the questions. In addition, answers from a Likert scale can be easily managed and coded using statistical techniques (Malhotra, 2010). The researcher designed the questionnaire in such a way that it was easy for respondents to read the questions and it took a few minutes to complete.

3.4 Population and sampling techniques

3.4.1 Target population

Research target population refers to the summation of elements with the study area where data will be collected from. The population in this research study is made up of Client Relationship Managers, Heads of Credit and Credit Analysts of the 13 registered commercial banks as December 2019 namely ZB Bank, First Capital Bank, CBZ Bank, NMB Bank, NED Bank, Metropolitan Bank, FBC Bank, Stanbic Bank, Steward Bank, Banc ABC, Eco-Bank, Standard Chartered Bank and Agri-Bank. The researcher estimates that there are 400 top, middle and lower managers working in the commercial banks in Harare, Zimbabwe. Therefore, the target population for this study is 400 respondents.

3.4.2 Sample Frame

A sample frame depicts the number of participants who actively participated in a research study. Saunders et al. (2007) noted that the determination of the sample size is very critical in a research study since it is the one that guarantees the exactitude and meticulousness of findings. The present study utilized the Research Advisors (2006) table in determining the sample size for this research study. The table shows calculated sample sizes for different populations at 95% and 99% confidence levels and at various error margins that researcher can adopt when conducting empirical studies. Considering that this was an empirical study and that the researcher had estimated the population for this research, the sample size was adopted from this Research Advisors (2006) table. Table 3.1 shows different sample sizes for a target population of 400 respondents at 95% confidence level.

Table 3.1: Sample sizes for a target population of 400 respondents

Population	Margin of Error at 95% Confidence Level			
	5%	3.5%	2.5%	1%
400	196	265	318	384

 Source: Research Advisors (2006)

The study had a target population of 400 respondents and the researcher wanted a sample frame plenty enough to produce a 95% confidence level in analysing the influence of CRM on NPLs in commercial banks in Zimbabwe within the ±5% margin of error. For this resolution, a sample size of 196 participants was adopted from the Research Advisors (2006) table. The Research Advisors (2006) also cited that many authors including research texts propose that a 95% confidence level and a margin of error of 5% which relates to the first column of the table gives a sample size that is sufficient enough to gather data needed for a research study. Therefore, the present study collected data from a sample frame comprised of 196 commercial bank managers in Harare.

3.4.3 Sampling Techniques

Sampling techniques depict the methods employed in selecting the respondents from the target population until the required sample size is achieved. Researchers make use of probability and nonprobability sampling techniques in picking up research participants from the target population into the sample frame. Probability sampling methods involves techniques that assign a certain probability or chance to respondents of being picked up into the sample frame. Thus, under probability sampling techniques, the selection of research participants follows an orderly system. Probability techniques are widely utilised in quantitative researches. Nonprobability sampling methods on the other hand make use of researcher's personal judgement and values in determining the type of participants to be picked up into the sample frame. These techniques are most common in qualitative researches. This research study employed both probability and nonprobability sampling methods in picking up respondents into the sample frame. Precisely, the study used stratified, judgemental and simple random sampling techniques.

3.4.3.1 Stratified Sampling

The researcher came up with subgroups known as strata that were used to classify bank managers. These strata were identifiable by the name of the commercial banks that the managers work for, thus there were 13 strata representing the 13 registered commercial banks in Zimbabwe. The reason why the researcher had to employ stratification was that it was important to collect data pertaining to the management of credit risk separately from each commercial bank

using the same standardised research instrument so as to observe how each commercial bank views the influence of CRM on NPLs.

3.4.3.2 Judgemental Sampling

Top and middle managers were selected as research participants because the management of credit risk is a strategic management process which is done by such managers. The researcher included line managers because they are the ones who deal directly with the borrowers and implement credit management strategies designed by top and middle managers thus, they possess direct information regarding the influence of CRM strategies employed by a bank on NPLs.

3.4.3.3 Simple Random Sampling

Respondents were picked up into the sample frame randomly. The researcher believed the simple random sampling technique gives all the prospective research participants an equal opportunity or chance of being picked up and take an active role during the research process. This often gives a sample frame which is representative that allows the generalisation of findings since the employed sample depicts the characteristics of the targeted population. Thus, the sample size that was used in this research study was representative and as such, findings can be generalised to the whole study population.

3.5 Questionnaire administration

The researcher used a self-administered structured survey questionnaires to gather data from targeted respondents. These methods of collecting data were appropriate for this study because they permit collection of large amounts of data at low cost and also they are convenient to participants. A total of 196 questionnaires were administered by hand and through email. Table 3.2 shows the amount of questionnaires that were administered to each commercial bank.

Table 3.2: Questionnaires administered to each commercial bank

Commercial Bank	No. of Questionnaires Administered
First Capital Bank	15
CBZ Bank	15
ZB Bank	15
NMB Bank	15
NED Bank	15

Stanbic Bank	15
Standard Chartered Bank	15
Metropolitan Bank	15
Steward Bank	16
Eco-Bank	15
Banc ABC	15
FBC Bank	9
Agri-Bank	15
Total	**190**

Source: Primary Data (2018)

Table 3.2 above shows that all the commercial banks were administered with 15 questionnaires each with the exception of Steward Bank that received 16 questions and FBC 9. A total of 190 questionnaires were thus administered to the 13 registered commercial banks in Zimbabwe.

3.5.1 Pilot study

The researcher pre-tested the questionnaire on a small proportion (5 respondents) of the sample. According to Johnson and Christensen (2012), pre-testing means testing the research instrument on a small portion of sample respondents in order to identify and correct flaws and limitations in the instrument. The pre-test was done to test the layout of questions, wording sequence as well time required to complete the questionnaire. Some of the problems that were encountered with questions content included questions too long and some questions were ambiguous. To solve this problem the researcher redesigned the questions by making them simple, short and precise. Visagie (2010) argues that it is important for a questionnaire to be checked for some formatting problems because they result in loss of important information. Therefore, a pilot study was done to improve validity of the instrument.

3.6 Data processing and analysis

According to Gelo, Braakmann and Benetka (2008) data analysis refers to the process of reducing the collected data into summaries and also deducing patterns through application of statistical analysis techniques. Glenn (2010) state that analysing data involves interpretation of research findings in relation to research questions and checking if findings are consistent with research hypotheses. Findings of this research were presented using tables, graphs and charts to

concisely outline results of the study. The data were collected using a survey questionnaire, captured and analyzed using SPSS Version 20. The descriptive statistics calculated in form of frequencies and percentages for the different variables and presented in form of frequency tables so as to make understanding easy. Presentation of data using graphs and pictures promotes effective communication and makes information easier to understand (Garbarino and Holland, 2009). The researcher carried out numerous data analysis procedures including normality test, regression and correlation analysis using SPSS. The researcher performed the regression analysis and tested the hypotheses so as to either accept or reject the hypotheses. The researcher then discussed the results and compared them with theory. The problem formulation was answered in the conclusion chapter, limitations and suggestions for future research were proposed.

3.6.1 Descriptive Statistical Analysis

Descriptive statistics in form of frequency distributions and percentages were used by the researcher to determine the demographic information and the level of agreeing or disagreeing on each of the questions.

3.6.2 Normality Test

The researcher tested a normality test to establish how data was distributed before analyzing it. To undertake the normality test of data, the researcher used Shapiro – Wilk which is used to sample sizes less than 2000 and this was relevant for the study. Shapiro – Wilk test with a "p" value greater than 0.05 ($p > 0.05$) indicates that data is evenly distributed meaning that the selected sample does not significantly vary from the study population hence, the parametric tests can then be performed using the data. If the "p" value is less than 0.05 ($p<0.05$), it means that data is not normally distributed meaning to say the sample significantly vary from the study population, therefore, the non-parametric tests are then performed.

3.6.3 Correlation Analysis

The correlation analysis was done to establish the degree of association between independent and the dependent variables. The analysis was of each independent variable (credit risk identification, credit risk measurement, credit risk monitoring and credit risk control) against the dependent variable (Non-performing loans). When carrying out the correlation analysis, the researcher looked at four aspects which are direction, magnitude, significance and multicolinearity.

Correlation of variables ranges from a -1 for the perfectly negative relationship to a +1 for perfectly positive relationship and 0 shows that no relationship exists. For a strong significant correlation to exist between variables, significance level should be less than 0.05. Multicolinearity tests whether the independent variables are independent of each other. If VIF is greater 10 it means there is multicolinearity.

3.6.4 Regression Analysis

The researcher, after establishing the strength of correlations between variables, proceeded to conduct regression analysis. Regression analysis was carried out to establish the cause-and-effect relationship between the independent and dependent variables in the study. A linear regression equation used in this study was as follows;
The derived regression model for NPL was found to be as follows;

$$Y = f(x) \tag{1}$$

$$Y_i = B_0 + BX_1 + BX_2 + BX_3 + BX_4 \tag{2}$$

Where

Y = Dependent Variable (NPLs)

X = Independent Variable (credit risk identification, credit risk measurement, credit risk monitoring and credit risk control)

3.7 Validity and reliability of research instruments

Validity and reliability are terms employed in judging the exactness and efficacy of the data gathered by authors through a defined research instrument (Saunders et al., 2009). The questionnaire employed in this research study collected data that is valid and s such can be relied upon in examining the influence of CRM on NPLs within commercial banks in Zimbabwe. The same instrument was administered by researchers such as Gakure et al. (2012), Kavwanyiri & Mutua (2017), Kinyua (2017) and Murigi & Thuo (2018) when they examined the influence of CRM on NPLs in different countries and it provided valid and useful data. Since the present

study is similar to those undertaken by the mention authors, the questionnaire was deemed to provide data that is valid and useful.

There are other aspects that the researcher undertook to ensure validity and reliability of the research instrument and of the data. The researcher explained the purpose of the study in the introduction section of the questionnaire to make respondents aware that the study was purely for academic purposes. Also, the researcher promised anonymity, privacy and confidentiality of both the responses and the respondents so that respondents could not falsify facts or even suppress other valuable information that could otherwise have hindered the attainment of the research objectives. This was an attempt towards ensuring that the questionnaire gathers information that is valid and useful. The researcher observed certain good ethical practices that are outlined in section 3.8 of this chapter and these likewise contributed towards ensuring valid and reliable data.

A reliability test was performed for all the items contained in the questionnaire using Cronbach's alphas. A benchmark of 0.7 was used as this was also used by researchers like Gakure et al. (2012), Kavwanyiri & Mutua (2017), Kinyua (2017) and Murigi & Thuo (2018) when they performed reliability tests for the items that were contained in their questionnaires. This benchmark was used to accept or reject items for analysis. Items that had an alpha of less the benchmark of 0.7 was rejected for analysis while items that had an alpha above 0.7 were accepted for analysis.

3.8 Ethical considerations

The researcher observed a number of good ethical behaviour during this research study. Firstly, the researcher ensured that no one was forced into taking an active role during this entire research study thus, participation was purely voluntary. Secondly, the researcher explained the aim of the study to the research participants and this made them not to hold valid information that could have otherwise limited the attainment of the research objectives. Thirdly, the researcher promised respondents privacy, confidentiality and anonymous so that they could not misrepresent facts fearing victimisation at the work place. Fourthly, the researcher made sure that the research study did not harm anyone in any way. Thus, the researcher can safely proclaim that no one was harmed by this research study. Fifthly, the researcher presumed full

accountability in publishing the positive benefits that can be derived from this research study, the methodology applied and challenges encountered.

3.9 Chapter summary

This chapter presented the research design and approach that were considered most appropriate for this study and their selection was justified. The target population was outlined and sampling frame was also well-defined. The research philosophy, assumptions, research strategy, quantitative research methodology, data collection method, data presentation and analysis procedures used in the study were outlined. The data collection for this study was done using a structured survey questionnaire. The research instrument used for data collection was piloted. This chapter also discussed validity and reliability issues as well as ethical considerations. The next chapter presents the findings based on evidence from data collected using research design and methodologies that were described in this chapter.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

Having administered the structured questionnaires in accordance to the prescribed methodology in the preceding chapter, they were collected, collated, coded and captured with the aid of the statistical package, SPSS Version 20. Appropriate analyses were used to address the research objectives of the study. The analysis was in the form of descriptive, correlation, regression and frequency tables.

4.2 Response rate

The researcher administered 190 questionnaires to 13 registered commercial banks operating in Zimbabwe as at 31 January 2020. Table 4.1 shows questionnaire response rate for this study.

Table 4.1: Questionnaire Response Rate

Research Instrument	Administered	Actual Collected	Response Rate (%)
Questionnaire	190	115	61%

Source: Primary Data (2018)

Of the 190 questionnaires that were administered to commercial bank managers, the researcher managed to collect 115 completed questionnaires. 80 questionnaires were not returned resulting in a 61%% questionnaire response rate.

4.2.1 Normality Tests

To ensure that the appropriate choice of data analysis techniques, normality tests were done to establish whether the distribution of the data availed suit to be analysed by parametric or non-oparametric analyses.

<table>
<tr><th colspan="7">Tests of Normality</th></tr>
<tr><th></th><th colspan="3">Kolmogorov-Smirnov[a]</th><th colspan="3">Shapiro-Wilk</th></tr>
<tr><th></th><th>Statistic</th><th>df</th><th>Sig.</th><th>Statistic</th><th>Df</th><th>Sig.</th></tr>
<tr><td>Risk Identification</td><td>.212</td><td>115</td><td>.000</td><td>.792</td><td>115</td><td>.000</td></tr>
<tr><td>Risk Measurement L</td><td>.192</td><td>115</td><td>.000</td><td>.814</td><td>115</td><td>.000</td></tr>
<tr><td>Credit Risk Monitoring</td><td>.217</td><td>115</td><td>.000</td><td>.881</td><td>115</td><td>.000</td></tr>
<tr><td>Risk Control</td><td>.201</td><td>115</td><td>.000</td><td>.835</td><td>115</td><td>.000</td></tr>
<tr><td>Risk Identification</td><td>.172</td><td>115</td><td>.000</td><td>.920</td><td>115</td><td>.001</td></tr>
<tr><td colspan="7">a. Lilliefors Significance Correction</td></tr>
</table>

The table shows that the values under Shapiro Wilk test were significant at 0.000 which is below 0.05. The data is not normally distributed as a result sample differs significantly from the population and this calls for the performance of Non-Parametric statistical tests on the data.

4.3 Reliability test

As a precondition to analyzing and interpreting the findings, Cronbach (1952) overemphasizes the importance of checking for internal consistency, or rather, reliability of the research instrument. The generally accepted way to establish this has always been the analysis of the Cronbach's Alpha. The researcher computed Cronbach's Alphas (reliability coefficients) to test the reliability of collected data. Table 4.2 shows the reliability coefficients for the variables that were employed in the administered questionnaire.

Table 4.2: Cronbach's Alpha

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item-Total Statistics				
Risk Identification	12.3236	1.903	.862	.909
Risk Measurement	12.2408	1.912	.855	.911
Credit Risk Monitoring	12.2540	1.832	.834	.919
Risk Control	12.2686	1.887	.832	.918

Source: Primary Data (2019)

Table 4.2 shows that the researcher recomputed to create the variables for the study. The variables which were computed were four and the table above shows that all of them were reliable since the reliability coefficient for these ranged from 0.909 to 0.919 which are above the 0.7 benchmark and was accepted for analysis.

Table 4.3: Reliability Statistics

Reliability Statistics

Cronbach's Alpha	N of Items
.917	24

The overall reliability for the 24 items that were employed in examining the influence of Credit Risk Monitoring on Non-Performing Loans of commercial banks was 0.917. Authors like Kinyua (2017) and Nyarko-Baasi (2018) noted that the highest alpha that can be obtained is 1 and the closer an alpha is to 1, the more reliable the data is. Therefore, considering that the overall reliability coefficient for the 24 items employed in the questionnaire was 0.917 and this is close to 1 implying that the collected data was reliable.

4.4 Demographic characteristics of respondents

The researcher collected data on the demographics of the respondents. The results of this analysis are presented in table 4.3 below.

Table 4.4: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
	female	58	50.4	50.4	50.4
Valid	male	57	49.6	49.6	100.0
	Total	115	100.0	100.0	

The table above shows that 58 were females constituting 50.4% of the total and men were 57 constituting 49.6% of the total. This shows that generally the respondents were balanced between male and females implying balanced gender roles in management

Table 4.5: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
	< 30 years	9	7.8	7.8	7.8
	> 50 years	13	11.3	11.3	19.1
Valid	31-40 years	48	41.7	41.7	60.9
	41-50 years	45	39.1	39.1	100.0
	Total	115	100.0	100.0	

The table above shows that the majority of the respondents were aged between 31 and 50 years (41.7% and 39.1%). This is generally shows that this is the most active group of people who also found in workplaces.

Table 4.6: Working experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 1 year	7	6.1	6.1	6.1

		Frequency	Percent	Valid Percent	Cumulative Percent
	> 7 years	43	37.4	37.4	43.5
	2-4 years	20	17.4	17.4	60.9
	5-7 years	45	39.1	39.1	100.0
	Total	115	100.0	100.0	

Table 4.6 above shows that the majority (56.6%) of the respondents were saved the bank for a period between 2 and 7 years. Another significant group (37.4%) saved the bank for a period which was above 7 years.

Table 4.7: Highest qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
	Bachelor's Degree	55	47.8	47.8	47.8
Valid	Master's Degree	60	52.2	52.2	100.0
	Total	115	100.0	100.0	

The table shows that 52.2% of the respondents were educated to Masters Level and 47.8% were educated to Bachelor's degree level. This trend shows that the target group was highly educated and this can demonstrate the ability of respondents to respond correctly to the issues raised in the research instrument.

Table 4.8: Position

		Frequency	Percent	Valid Percent	Cumulative Percent
	Line Manager	15	13.0	13.0	13.0
Valid	Middle Manager	59	51.3	51.3	64.3
	Senior Manager	41	35.7	35.7	100.0
	Total	115	100.0	100.0	

Source: Primary Data (2019)

The table above highlights that respondents who were in the middle management level were 59 (51.3%), 41 (35.7%) were in senior management and 15 (13.0%) were line managers. This generally shows that the research targeted respondents who were in management.

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4.5 Descriptive statistics

This section provides an analysis of the research objectives using the descriptive statistics. The descriptive statistics were computed in the form of maximum responses, minimum responses, mean responses and standard deviation for each item under each variable that was employed in the examination of the influence of credit risk (CR) on Non-Performing Loans of commercial banks in Zimbabwe. These statistics are presented, analysed and interpreted under each relevant subheading in the following subsections. The numbers were interpreted using the following Likert scale;**1** = Strongly Disagree, **2**= Disagree, **3** = Neutral, **4** = Agree and **5** = Strongly Agree

4.5.1 Risk Identification and Non-Performing Loans (RINPL)

This section provides an analysis of components under Risk Identification and Non-Performing Loans (RINPL). The results for this study are presented in the table 4.4 below.

Table 4.9: Descriptive statistics for Risk Identification

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
B1	Commercial banks' management do not miss out any risk during risk identification.	115	3	5	3.96	.450
B2	Commercial bank management knows the type of risks their bank face.	115	2	5	4.22	.910
B3	Banks' management assign different bank departments and various bank employees diverse responsibilities aimed at identifying precise risks that the bank face.	115	2	5	3.84	.889
B4	Banks considers risk identification as important in credit risk management.	115	1	5	3.88	.895
B5	Missing out of risks has detrimental effects on the performance of credit risk in commercial banks.	115	1	5	4.12	.824
B6	Non-performance of credit has negative effects on the profitability of commercial	115	2	5	4.10	.735

	banks.					
B7	Credit risk identification has a positive impact on the performance of credit in commercial banks.	115	1	5	4.10	.735
	Valid N (listwise)	115				

Source: Primary Data (2019)

The component "Commercial banks' management do not miss out any risk during risk identification" scored a minimum of 3 and a maximum of 5 with a mean response of 3.96 accompanied by a standard deviation of 0.450. Commercial bank management knows the type of risks their bank face scored a minimum of 2 and a maximum of 5. The mean for this component was 4.22 with a standard deviation of 0.910.

The component that "Banks' management assign different bank departments and various bank employees diverse responsibilities aimed at identifying precise risks that the bank face" scored a minimum of 2 and a maximum of 5 with a mean score of 3.84 and a standard deviation of 0.889. The component "Banks considers risk identification as important in credit risk management" recorded a minimum of 1, maximum of 5, mean of 3.88 and a standard deviation of 0.895.

The component "Missing out of risks has detrimental effects on the performance of credit risk in commercial banks" recorded a minimum of 1, maximum of 5, mean of 4.12 and a standard deviation of 0.824.

The following figure shows a summed up analysis of the components under risk identification and the impact to the Non-Performing Loans.
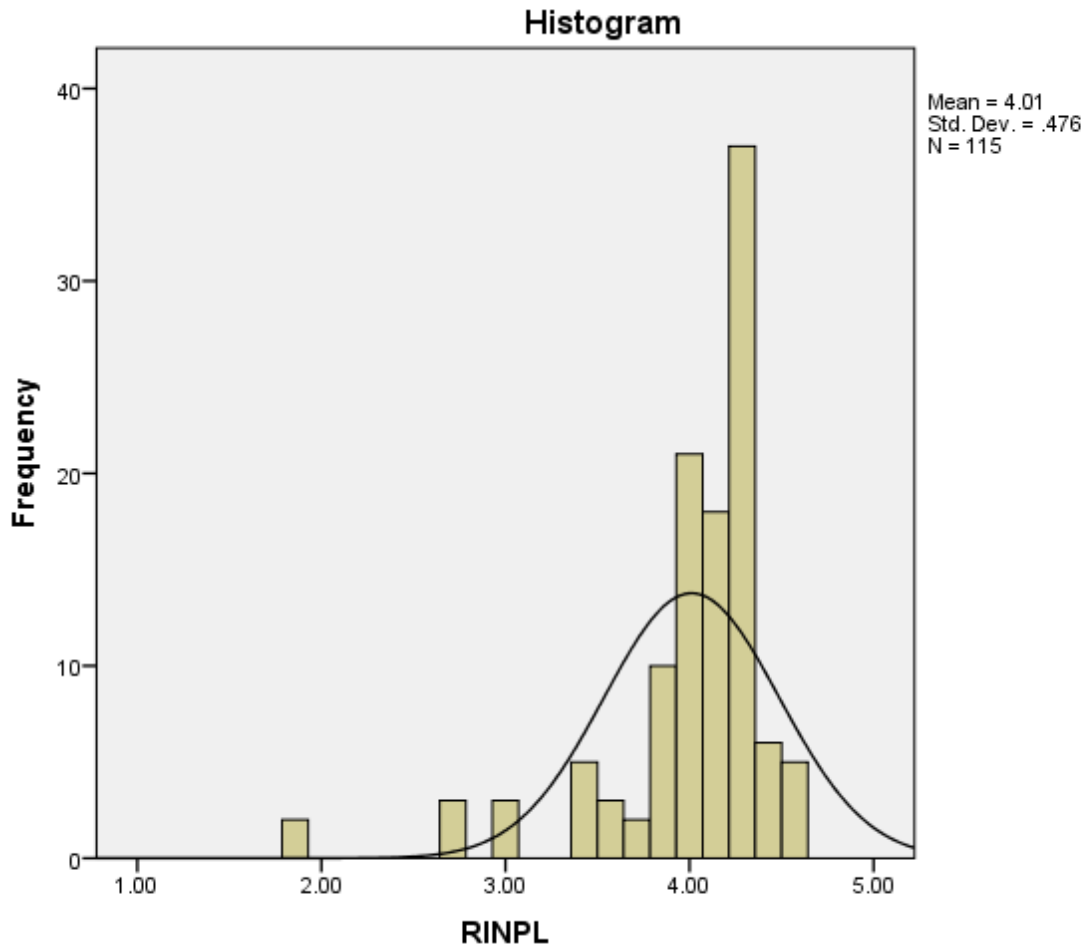
Figure 4.2: Risk Identification and Non-Performing Loans (RINPL)

The overall mean for all the components was 4.01 with a standard deviation of 0.476. This generally confirms the fact that respondents agreed to the components under risk identification as an influencer to the level of Non-Performing Loans.

4.5.2 Risk Measurement and NPLs (RMNPL)

In this study the researcher believed that the ability of bank management to measure credit risk has a positive influence on non-performing loans. In order to analyse this the researcher collected data on the six items shown in the table 4.10 below.

Table 4.10: Descriptive Statistics for Risk Measurement

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
C1	The management of commercial banks have sufficient mechanisms that can be used in measuring the identified risks.	115	2	5	3.98	.761
C2	Bank managers categorise credit risks measured in terms of the damage they pose to the bank.	115	1	5	3.95	.887
C3	The bank managers Categorises measured risk aids to distinguish risks that threatens the effective operation of the banking institution from those that merely cause light damage	111	2	5	3.98	.660
C4	Risk that threatens the effective operation of banks is addressed first on bank profitability effects.	111	1	5	4.23	.797
C5	The measurement of risk is a very important aspect in credit risk management process.	111	3	5	4.30	.682
C6	The ability of management to measure and quantify credit risk positively influences non-performing loans of banks	111	1	5	4.18	.729
	Valid N (listwise)	111				

Source: Primary Data (2019)

The component "The management of commercial banks have sufficient mechanisms that can be used in measuring the identified risks" recorded a minimum of 2, maximum of 5, mean of 3.98 and standard deviation of 0.761.

The component with the highest mean was "The measurement of risk is a very important aspect in credit risk management process" which recorded a minimum of 3. Maximum of 5, mean of 4.30 and a standard deviation of 0.682.

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The component with the least mean was "Bank managers categorise credit risks measured in terms of the damage they pose to the bank" which recorded a minimum of 1, maximum of 5, mean of 3.95 and a standard deviation of 0.887. This was justified by the relatively high standard deviation of responses from the mean.
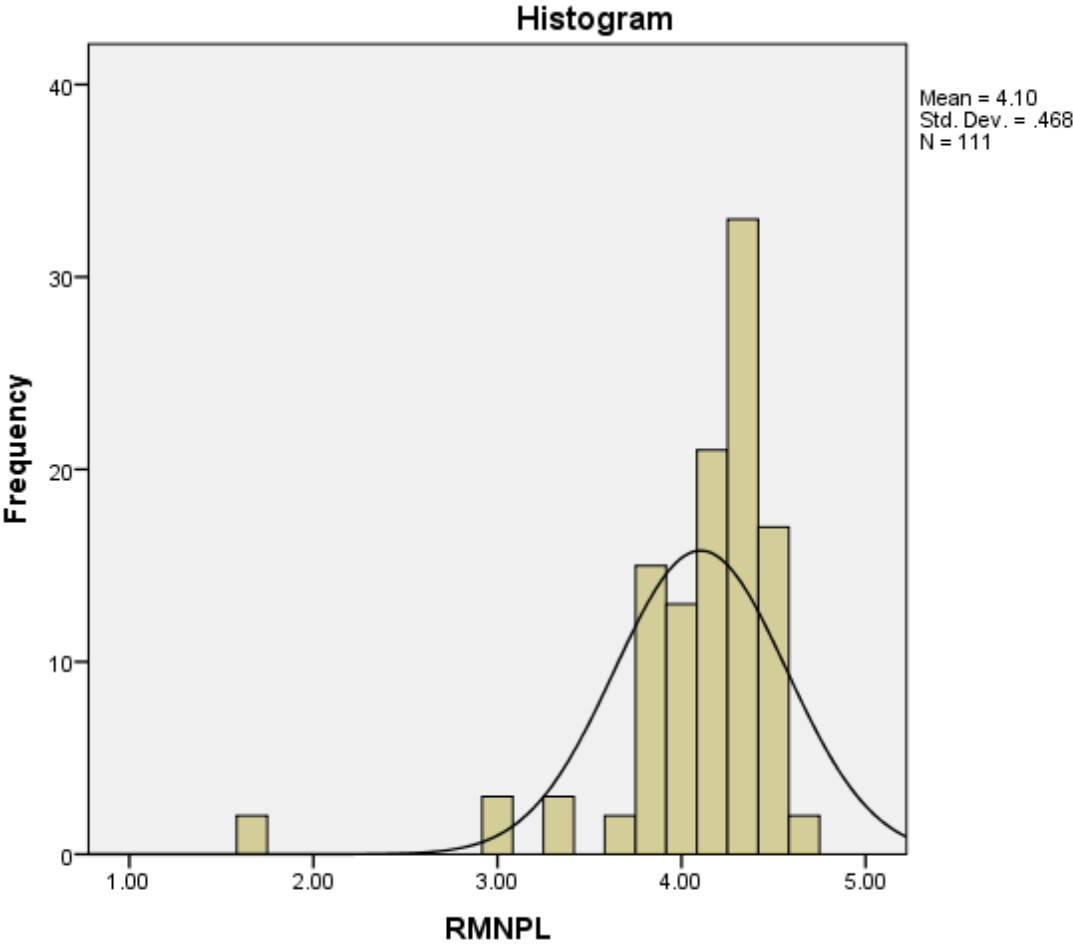
Figure 4.3: Risk Measurement and NPLs (RMNPL)

The overall mean for all the components was 4.10 with a standard deviation of 0.468. This generally confirms the fact that respondents agreed to the components under Risk Measurement as an influencer to the level of Non-Performing Loans.

4.5.3 Credit Risk Monitoring and Loan Performance (CRMLP)

The researcher asked respondents the extent to which they agree that Non-Performing Loans ratio can be reduced if banks' management closely monitors risks that affect the performance of loans. Table 4.11 shows descriptive statistics concerning the responses that were provided by respondents.

Table 4.11: Descriptive Statistics for Credit Risk Monitoring

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
D1	Credit risk monitoring is the most critical functions of commercial bank risk managers.	111	2	5	3.96	.774
D2	Bank management closely monitors the performance of credit.	111	2	5	4.19	.681
D3	Effective credit risk control are effectively recognised earlier so that applicable control measures are put in place.	111	1	5	4.02	.786
D4	Efficient risk monitoring mechanisms have a positive influence on risk administration practices of commercial banks.	111	1	5	3.97	.814
D5	There is a positive influence of credit risk monitoring on non-performing loans of commercial banks.	111	2	5	4.23	.873
	Valid N (listwise)	111				

Source: Primary Data (2019)

The table above shows that the component that "Credit risk monitoring is the most critical functions of commercial bank risk managers" recorded a minimum of 2, maximum of 5, mean of 3.96 and a standard deviation of 0.774.

The component that recorded the highest mean was "Bank management closely monitors the performance of credit" which recorded a minimum of 2 and maximum of 5, mean of 4.19 and a standard deviation of 0.681. This generally shows that respondents agreed to all the components
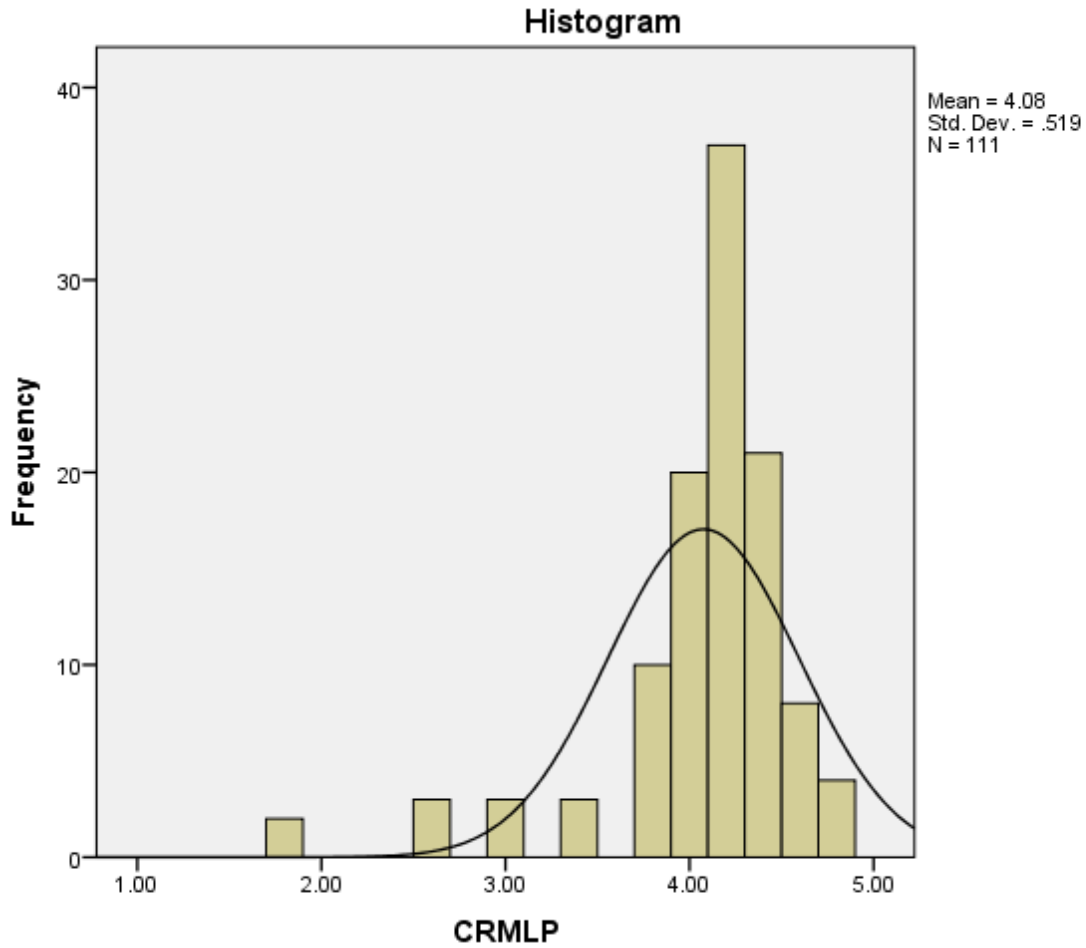
Figure 4.4: Credit Risk Monitoring and Loan Performance (CRMLP)

The overall mean for all the components was 4.08 with a standard deviation of 0.519. This generally confirms the fact that respondents agreed to the components under Credit Risk Monitoring as an influencer to the level of Non-Performing Loans s.

4.5.4 Risk Control and Non-Performing Loans (RCNPL)

Respondents were asked to indicate the extent to which they agreed that there is a positive link between credit risk control and Non-Performing Loans. Table 4.12 shows descriptive statistics regarding the responses that were provided by research participants.

Table 4.12: Descriptive Statistics for Risk Control

	Descriptive Statistics					
		N	Minimum	Maximum	Mean	Std. Deviation
E1	Commercial banks take note of procedures on credit sanctioning.	111	1	5	3.95	.824
E2	The endorsement of credit risk control experts is done by the Board of Directors of the bank.	111	2	5	4.14	.749
E3	Credit management practices entail that individuals who are sanctioned with credit control need to have the client relationship responsibility.	111	1	5	4.05	.883
E4	Credit risk control mechanisms are a crucial component of the credit risk administration which influences the performance of credit.	111	2	5	4.16	.720
E5	Credit default is mainly attributed to weak credit control mechanisms within banking institutions.	111	3	5	4.16	.695
E6	Credit risk control has a significant positive effect on non-performing loans in commercial banks.	111	1	5	3.93	.747
	Valid N (listwise)	111				

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Source: Primary Data (2019)

Table 4.13 shows that the component "Commercial banks take note of procedures on credit sanctioning" recorded a minimum of 1, maximum of 5, mean of 3.95 and a standard deviation of 0.824. The least mean was recoded on the component "Credit risk control has a significant positive effect on non-performing loans in commercial banks", with a minimum of 1, maximum of 5, mean of 3.93 and standard deviation of 0.747.

The maximum mean was found on the component that :"Credit default is mainly attributed to weak credit control mechanisms within banking institutions", with a minimum score of 3, maximum of 5, mean of 4.16 with standard deviation of 0.695. This standard deviation shows a relatively average dispersion of responses from the mean.
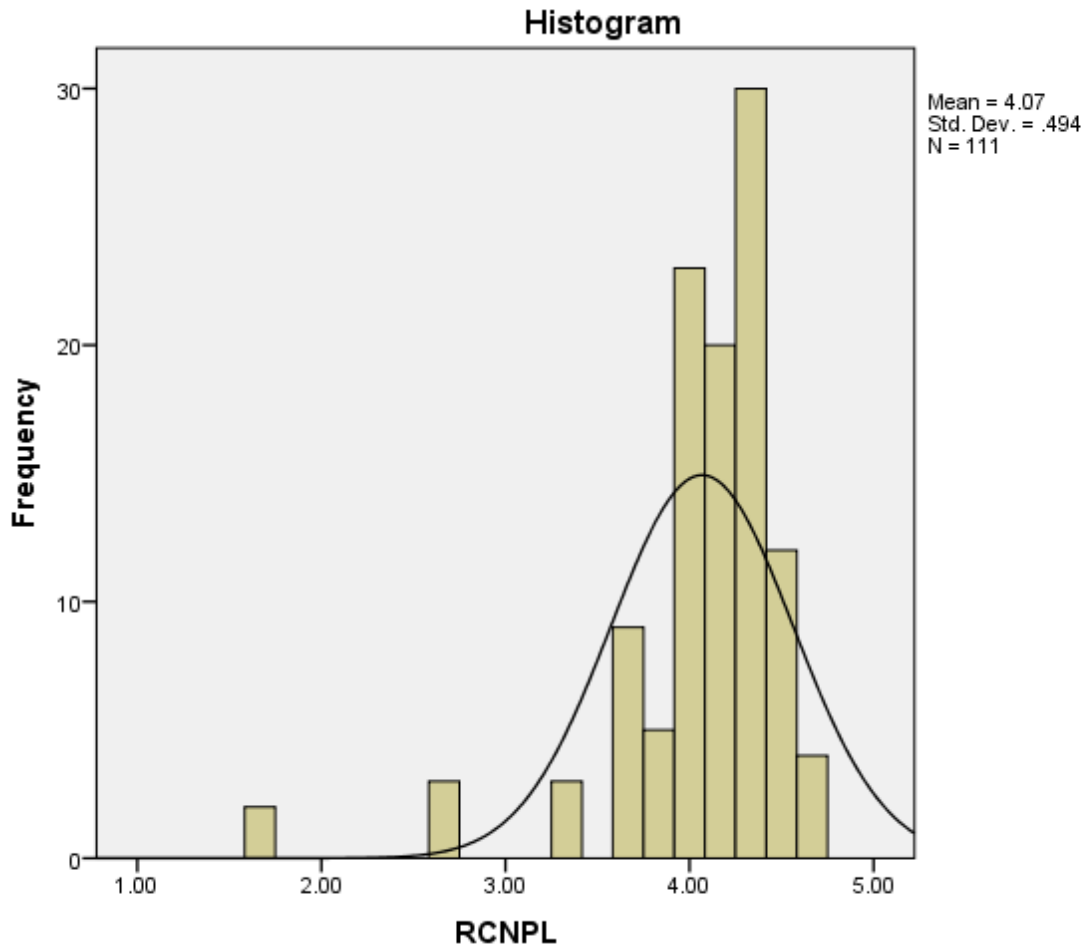
Figure 4.5: Risk Control and Non-Performing Loans (RCNPL)

The overall mean for all the components was 4.07 with a standard deviation of 0.494. This generally confirms the fact that respondents agreed to the components under Risk Control as an influencer to the level of Non-Performing Loans.

4.6 Inferential statistics

4.6.1 Correlation

Pallant (2005) Correlation Coefficient was used to determine direction and significance of relationships performance and factors explaining it as shown in table below. Correlation ranges from -1 for a perfect negative relationship to +1 for a perfect positive correlation. A positive

relationship means there is an association of high values of one variable with high values of the other variable exists and it is vice versa for a negative relationship. In this section the main objective together was to establish the influence of credit risk management on non-performing loans in Zimbabwean commercial banks using the correlation analysis. The results of this analysis are shown in the table 4.14 below.

Table 4.14   Correlation Analysis

Spearman rho		Non-Performing Loans	Risk Identification	Risk Measurement	Credit Risk Monitoring	Risk Control
Non-Performing Loans	Correlation Coefficient	1.000				
	Sig. (2-tailed)	.				
Risk Identification	Correlation Coefficient	.807**	1.000			
	Sig. (2-tailed)	.000	.			
Risk Measurement	Correlation Coefficient	.789**	.795**	1.000		
	Sig. (2-tailed)	.000	.000	.		
Credit Risk Monitoring	Correlation Coefficient	.789**	.776**	.792**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.	
Risk Control	Correlation Coefficient	.775**	.771**	.748**	.756**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

The following can be said about the table above:

- The table above shows that there was a positive, strong and significant relationship between Risk Identification and Non-Performing Loan**s (RINPL) [(β=0.807), p<0.05 (p=0.000)].**
- The table above shows that there was a positive, strong and significant relationship between Risk Measurement and Non-Performing Loans (RMNPL) [(β=0.789), p<0.05 (p=0.000)].
- The table above shows that there was a positive, strong and significant relationship between Credit Risk Monitoring and Loan Performance (CRMLP) **[(β=0.789), p<0.05 (p=0.000)].**
- The table above shows that there was a positive, strong and significant relationship between Risk Control and Non-Performing Loans (RCNPL) **[(β=0.775), p<0.05 (p=0.000)].**

4.6.2 Regression

According to (Pallat, 2012) regression is ordinarily used to help management to make decisions. Multiple linear regression analysis establishes the cause and effect relationship and it answers the overall objectives together with sub-objectives as it gives the extent to which independent variables influence the depended variable.

Table 4.15: Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.868a	.753	.744	.27263

a. Predictors: (Constant), Risk Identification, Risk Measurement, Credit Risk Monitoring, Risk Control

The researcher regressed business performance against Credit Risk Monitoring under this research and the R^2 which shows the impact of independent variables on Non-Performing Loans is 0.753 and the adjusted R^2 is 0.744. This shows that the model only explains 74.4% of the data

set which implies that the independent variables can only explain 74.4% of the Non-Performing Loans. The model however, has a low predictive capacity.

Table 4.16: ANOVA

			ANOVAᵃ			
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.065	4	6.016	80.943	.000ᵇ
	Residual	7.879	106	.074		
	Total	31.944	110			

a. Dependent Variable: Non Performing Loan

b. Predictors: (Constant), Risk Identification, Risk Measurement, Credit Risk Monitoring, Risk Control

The F Value shows the suitability of the model. In this instance the F value is 19.389 and p-value of 0.00 shown in the ANOVA result table above shows that the relationship between the dependent variable (performance) and its explanatory variables is statistically significant as the p-value is less than 0.05 **[F (4, 106) = 80.943, p < .05 (p=0.000)**. The model can be used to predict the impact of Credit Risk on the Non-Performing Loans.

Table 4.17: Coefficients

		Coefficientsᵃ				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.144	.241		-.598	.551
	Risk Identification	.326	.103	.292	3.184	.002
	Risk Measurement L	.242	.105	.210	2.301	.023
	Credit Risk Monitoring	.241	.093	.232	2.589	.011

Risk Control	.237	.092	.217	2.584	.011

a. Dependent Variable: Nonperforming Loan

b.

In the model above all the variables (p-value<0.05) were statistically significant estimators of the Non-Performing Loans of banks. The regression model is as follows:

Non-Performing Loans = -0.144 + 0.326 Risk Identification +0.242 Risk Measurement +0.241 Credit Risk Monitoring +0.237 Risk Control.

4.7 Discussion

4.7.1 The impact of credit risk identification on non-performing loan ratio

The table above shows that there was a positive, strong and significant relationship between Risk Identification and Non-Performing Loan**s (RINPL) [(β=0.807), p<0.05 (p=0.000)].**
It can be noted that the estimated beta value for risk identification is positive. This implies a positive impact of risk identification on performance on loans. The positive impact of risk identification on loan performance is significant at 1%, 5% and 10% as shown by the probability value of 0.000. This means that there is a positive and significant impact of risk identification on the performance of loans. As a result of this, the hypothesis that "credit risk identification has a positive impact on the performance of loans" was accepted at all level of significance. The coefficient of determination (R^2) of 0.543 indicates that risk identification accounts for 54.3% of the total variation in loan performance.

The above results were in line with Gakure et al. (2012), Kinyau (2017) and Murigi & Thuo (2018) who revealed positive and significant influence of credit risk identification on the performance of loans in Kenya. These authors concurred that risk identification is very crucial in noting diverse risks that might pose threats to the effective performance of loans. The findings of this present study also supported the claims by Gakure et al. (2012), Kinyau (2017) and Murigi & Thuo (2018) by revealing that it is imperative for banks not to miss out any risks during risk identification due to the positive influence risk identification pose on the performance of loans within commercial banks.

4.7.2 The influence of credit risk measurement on non-performing loan ratio

The table above shows that there was a positive, strong and significant relationship between Risk Measurement and Non-Performing Loans (RMNPL) [(β=0.789), p<0.05 (p=0.000)].

The above results indicated that there is a positive influence of risk measurement on non-performance loan ratio within the commercial banks in Zimbabwe. This was shown by the positive beta value of 0.297. The positive influence of credit risk measurement on non-performance loan ration was significant at all levels of significance (1%, 5% and 10%) as shown by the probability value for this variable of 0.000. These results implied that there is a positive and significant influence of credit risk measurement on non-performance loan ratio of commercial banks in Zimbabwe. As a result, the hypothesis that "credit risk measurement has a positive influence on non-performance loan ratio" was accepted at all levels of significance. Credit risk measurement had a coefficient of determination of 0.461. This coefficient of determination indicated that of the total variation in non-performance loan ratio, credit risk measurement accounted for 46.1%.

Researchers like Gakure et al. (2012), Kavwanyiri & Mutua (2017), Kinyua (2017) and Murigi & Thuo (2018) who explored the influence of credit risk administration on nonperforming loans in various countries found credit risk measurement to be positively associated with the performance of loans. It can be argued therefore that the findings of this present study were in line with the findings of the mentioned studies. Risk measurement necessitates banks to separate risks that have greater impact on the performance of loans from those that cause light damage and this ultimately lead to a positive performance of loans of commercial banks.

4.7.3 The effect of credit risk monitoring on non-performing loan ratio

The table above shows that there was a positive, strong and significant relationship between Credit Risk Monitoring and Loan Performance (CRMLP) **[(β=0.789), p<0.05 (p=0.000)].**
The positive value of the estimated beta of 0.439 indicated that there is a positive effect of credit risk monitoring on the performance of loans within commercial banks in Zimbabwe. The

positive effect of credit risk identification on the performance of loans was significant at 1%, 5% and 10% significance levels as indicated by the probability value for this variable of 0.000. As a result, the hypothesis that "there is a positive effect of credit risk monitoring on the performance of loans" was accepted at all significance levels. Credit risk monitoring had a coefficient of determination of 0.572. This coefficient of determination indicated that credit risk monitoring accounted for 57.2% of the total variation in loan performance.

Gakure et al. (2012), Kavwanyiri & Mutua (2017), Kinyua (2017) and Murigi & Thuo (2018) investigated the impact of credit risk administration on underperforming loans revealed that credit risk monitoring has substantial positive effects on alleviating under performing loans in banks. It can therefore be argued that the findings of this present study were in line with the findings of the mentioned authors. This proves that effective management of credit risk involves a recording and assessment structure aimed at ensuring that credit risks are effectively recognised and examined and also that applicable control measures are put in place.

4.7.4 The link between credit risk control and non-performing loan ratio

The table above shows that there was a positive, strong and significant relationship between Risk Control and Non-Performing Loans (RCNPL) **[(β=0.775), p<0.05 (p=0.000)].**

These results indicate that there is a positive and significant link between credit risk control and non-performance loan ratio. The positive link is depicted by the positive estimated beta value of 0.531 for risk control. The probability value of 0.000 indicated that the positive link between credit risk control and non-performance loan ratio was significant at all levels of significance. As a result, the hypothesis that "there is a positive link between credit risk control and non-performance loan ratio" was accepted at all levels of significance. The coefficient of determination of 0.524 depicted that credit risk control accounted for 52.4% of the total variation in loan performance.

The above findings are in line with authors such as Gakure et al. (2012), Kavwanyiri & Mutua (2017), Kinyua (2017) and Murigi & Thuo (2018) who found positive and significant influence of credit risk control on the performance of loans in various countries across the globe when they examined the influence of Credit Risk Monitoring on Non-Performing Loans. Ahmed & Malik

(2015) however found a positive but insignificant impact of credit risk control on the performance of loans. Even though Ahmed & Malik (2015) found insignificant positive impact of risk control on loan performance, Negera (2012) depicted that weak internal credit risk control systems leads to underperformance of loans. This shows that as banks closely monitors credit risk, their loans performs as intended thereby supporting the positive and significant impact of credit risk control on performance of loans.

4.8 CHAPTER SUMMARY

The researcher achieved 61% questionnaire response rate and all the items that were employed in examining the influence of Credit Risk on the Non-Performing Loans of commercial banks in Zimbabwe had an overall Cronbach's alpha of 0.917 indicating that data collected was reliable. All the items were therefore presented for analysis. Examination of collected data revealed that credit risk identification, measurement, monitoring and control have positive and significant influence on the performance of loans of commercial banks in Zimbabwe. The following chapter centres on conclusions and recommendations to all the stakeholders. All the formulated research hypotheses were accepted. The following chapter summarise findings of this research study, draw conclusions and provides recommendations in line with those findings.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter presents the conclusions and the recommendations of the study basing on the findings from the previous chapter four. This chapter outlines the achievement of research objectives and the answer to the research questions .It further explains the theoretical, methodological and empirical contribution of the research. The policy and managerial recommendations, generalisation of findings, limitations and areas of further study forms the last sections of the chapter.

5.2 Achievement of research aim and objectives

The aim of the research is to examine the effects of the management of credit risk on non-performing loans in the commercial banks of Zimbabwe. The objectives of the study were to examine the impact of credit risk identification on non-performing loan ratio, to assess the influence of credit risk measurement on non-performing loan ratio, **t**o analyse the effect of credit risk monitoring on non-performing loan ratio **and t**o evaluate the link between credit risk control and non-performing loan ratio

The research objectives were achieved by gathering literature from various sources on management of credit risk on non-performing loans. Literature was also reviewed on each objective to establish the view of other authors and their findings on the area understudy. A conceptual framework was formulated to support the research hypotheses of the study. A survey was carried out within the banking sector targeting the management of the banks. A structured questionnaire that allowed quantitative data to be collected was used. Data was analyzed using descriptive and inferential statistics, particularly the test of significance and the correlation analysis. The findings were made in relation to the research objectives.

5.3 Conclusions

The research provided the following conclusions;

5.3.1 The impact of credit risk identification on non-performing loan ratio

The research concluded that risk identification is one of the important process in management of risks. Risk identification helps the bank managers to identify different types of risks that affect non-performing loans. The research established that risk identification positively influence the performance of non-performing loans.

5.3.2 The influence of credit risk measurement on non-performing loan ratio

It was concluded that risk measurement necessitates banks to separate risks that have greater impact on the performance of loans from those that cause light damage and this ultimately lead to a positive performance of loans of commercial banks. Risk measurement positively influence the performance of non-performing loans in the commercial banking sector.

5.3.3 The effect of credit risk monitoring on non-performing loan ratio

The researcher concluded that risk monitoring has substantial positive effects on alleviating under performing loans in banks. Bank managers strongly agreed that that NPLs ratio can be reduced if banks' management closely monitors risks that affect the performance of loans. The research established that management of credit risk involves a recording and assessment structure aimed at ensuring that credit risks are effectively recognised and examined and also that applicable control measures are put in place.

5.3.4 The link between credit risk control and non-performing loan ratio

The researcher concluded that credit risk control positively influence the performance of non-performing loan ratio of commercial banks in Zimbabwe. Credit control systems are essential to ensure that   there is improved performance for non-performing loans.

5.4 Answer to the research question

The findings that were gathered from the regression analysis, correlational analysis and model coefficients helped to answer the research questions of the study. The impact of each independent variable on non-performing loans was determined by the significance and the strength of the correlation with the dependent variable.   The research questions of the study were:

What is the impact of credit risk identification on non-performing loan ratio?

Does credit risk measurement have an   influence on non-performing loan ratio?

What is the effect of credit risk monitoring on non-performing loan ratio?

Is there a link between credit risk control and non-performing loan ratio?

To answer the research questions, the findings showed that there is a positive correlation between the independent variable (credit risk identification, credit risk measurement, credit risk monitoring and credit risk control) and the performance of non-performing loans ratio.

5.5 Contribution

5.5.1Theoretical contribution.

Both theory and empirical findings contribute to our understanding of the interplay between management of credit risks and non-performing loan ratio. This study also contributes to the understanding of the importance of management of credit risks and its impact on non-performing loan ratio in the commercial banking sector

5.5.2 Methodological contribution

 Finally, a methodological contribution relates researcher's ability to use the   research design and survey method in this study. Other research methods can be used in future studies to broaden the amount of data collection and accuracy of responses. Methods like focus groups, case studies as well can also be employed to gather research data. The methods yield valid, verifiable and reliable data. Qualitative methods can also be employed in future research since the current study used quantitative analysis. However the draw backs of qualitative analysis should be taken into consideration particularly lack of objectivity and also failure to generalize findings

5.5.3 Empirical contribution

The research study endeavored to provide both academic and practical contributions to the existing body of literature on management of credit risks and non-performing loan ratio. On the academic side, the study contributed fundamental literature in management of credit risks and non-performing loan ratio. The empirical evidence on the relationship between management of credit risks and non-performing loan ratio substantiate other researches that were conducted on a similar study area.

5.6 Policy recommendations

- The RBZ must ensure that commercial banks develop strong credit mechanisms and guidelines in an attempt to lower the ratio of underperforming loans and ensure that commercial banks need to institute credit risk administration practices that includes inauguration, endorsement, monitoring and problem administration tailored in such a way that it meet the needs of each banking institution.

5.7 Managerial recommendation

- Bank managers should set up CRM team comprised of members drawn from all bank departments to identify all possible risks that their bank faces. The study found out and concluded that risk identification is very crucial in noting diverse risks that might pose threats to the effective performance of loans. Therefore, setting up a team to identify diverse risks that the bank faces ensures that loans do not under-perform.
- Bank CRM teams should be able measure and quantify the risks that their bank face so as to separate risks that have greater impact on the performance of loans from those that cause light damage and deal first with those risks that pose greater impact on the performance of loans as this ultimately lead to a positive performance of loans of commercial banks.
- CRM teams within commercial banks should closely monitor the performance of loans as an attempt to reduce or lower NPLR by putting in place risk recording and assessment structures aimed at ensuring that credit risks are effectively recognised and examined and also that applicable control measures are put in place.

- Bank managers should ensure strong internal risk control systems as a way of enhancing and safeguarding the performance of loans since weak internal control systems lead to underperformance of loans in commercial banks.

5.8. Generalization of findings

This research was limited to commercial banks in Harare. The main assumption of this study was that, the results of the study can be used as a benchmark to banking in Zimbabwe. Using a larger sample and considering would have yielded better results. More so the quantitative structured questionnaire had no option for the respondents to express their views. It is not justified to generalise the findings to the banking sector in Zimbabwe. The generalizations of the results might need to be taken with caution. It is therefore suggested that other researches be done using qualitative methods to gather more detailed information. This research was cross sectional, the results may be too general to be applied to the oil and energy industry.

5.9 Limitations

This study has several limitations, such as limitations on survey methods that use only the Questionnaires, so that respondents in filling out questionnaires based on their perception and can lead to bias responses. This was because respondents might give untrue answers but they believed to be appropriate. In addition, the questionnaires were not fully able to dig up information like open-ended questions, so that additional information for the completeness of discussion was still needed to be developed further.

This study targeted the management of the oil and energy sector who had had very limited time to answer the questionnaire, this may lead to rushed responses and failure to respond at all, the researcher had to become a nuisance in order to collect some reasonable information.

Limited time to carry out the research. A better well researched study needs ample time to be completed. This study was carried out in a period of 6 moths and results were required within this period. This alluded to the researcher using a smaller sample.

5.10 AREAS FOR FUTURE RESEARCH

The researcher proposed that future studies should explore other factors that influence the performance of loans within commercial banks in Zimbabwe other than the ones examined by this study. Future studies should also expand this study by focus on other types of banks and other financial institutions since this study was only confined to commercial banks. Attempts should also be made towards examining factors that influence credit performance of micro-finance institutions that only offer credit facilities. In addition, future studies should employ mixed methodologies to get an in depth understanding of the influence of the influence of CRM on non-performing loans ratio.

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Appendix 1: Cover letter

UNIVERSITY OF ZIMBABWE

I am a Masters in Business Administration (MBA) student with the Graduate School of Management (GSM), of the University of Zimbabwe. In order to complete my MBA programme, I am required to carry out a research on: **THE INFLUENCE OF CREDIT RISK MANAGEMENT ON NON-PERFORMING LOANS IN ZIMBABWEAN COMMERCIAL BANKS.** I would be most grateful if you spare some time to attend to this questionnaire. This questionnaire forms the foundation of the study and the researcher hopes to come up with discussion points and recommendations on the subject matter.

I would like to thank you in advance for participating or responding to the questions and for your most valuable information and time. Your responses will be treated in confidentiality

Yours faithfully

Neves Hushe

Appendix 2: Questionnaire

SECTION A: DEMOGRAPHIC INFORMATION

(*Please tick the most appropriate*)

a1.   Gender   **a.** Male [   ]   **b.** Female [   ]

a2.   Age Range   **a.** < 30 years [   ]   **b.** 31-40 years [   ]

                          c. 41-50 years [   ]   **c.** > 50 years [   ]

a3.   State the name of your bank [   ]

a4.   For how many years have you been working for that commercial bank?

          a. < 1 year [   ]   **b.** 2-4 years [   ]   **c.** 5-7 years [   ]

          d. > 7 years [   ]

a5.   Which highest qualification do you hold?

          a. Advanced Level [   ]   **b.** Bachelor's Degree [   ]

          b. Master's Degree [   ]   **d.** Other *(specify)* ……………………………….

a6.   What position do you hold within the management of your commercial bank?

          a. Senior Manager [   ]   **b.** Middle Manager [   ]

          c. Line Manager [   ]   **d.** Other *(specify)* ……………………………….

SECTION B: Risk Identification and Non-Performing Loans (RINPL)

6. The researcher is interested in determining the impact of credit risk identification on non-performing loans ration within commercial banks of Zimbabwe. Indicate the extent to which you agree with the following items using the following ratings:

1 = Strongly Disagree, **2**= Disagree, **3** = Neutral, **4** = Agree and **5** = Strongly Agree

Coding	Items	1	2	3	4	5
B1	Risk identification is very crucial in the management of credit risk.					
B2	Commercial bank management should know the type of risks their bank face.					
B3	Banks' management should assign different bank departments and various bank employees diverse responsibilities aimed at identifying precise risks that the bank face.					
B4	It is imperative for commercial banks' management not to miss out any risk during risk identification.					
B5	Missing out of risks has detrimental effects on the performance of credit risk in commercial banks.					
B6	Non-performance of credit has negative effects on the profitability of commercial banks.					
B7	Credit risk identification has a positive impact on the performance of credit in commercial banks.					

SECTION C: Risk Measurement and Non-Performing Loans (RMNPL)

8. The ability of bank management to measure credit risk has a positive influence on non-performing loans. Do you agree? Indicate the extent to which you agree with the following items using the following ratings:

1 = Strongly Disagree, **2**= Disagree, **3** = Neutral, **4** = Agree and **5** = Strongly Agree

Coding	Items	1	2	3	4	5
C1	The management of commercial banks need to make sure that they have sufficient mechanisms that can be used in measuring the identified risks.					
C2	Bank managers must be able to categorise credit risks measured in terms of the damage they pose to the bank.					
C3	Categorisation of measured risk aids management to distinguish risks that threatens the effective operation of the banking institution from those that merely cause light damage					

C4	Risk that threatens the effective operation of banks should be addressed first since they pose serious devastating effects on bank profitability.					
C5	The measurement of risk is a very important aspect in credit risk management process.					
C7	The ability of management to measure and quantify credit risk positively influences non-performing loans of banks					

SECTION D: Credit Risk Monitoring and Loan Performance (CRMLP)

9. Non-performing loans ratio can be reduced if banks' management closely monitors risks that affect the performance of loans. Do you agree? Indicate the extent to which you agree with the following items using the following ratings:

1 = Strongly Disagree, **2**= Disagree, **3** = Neutral, **4** = Agree and **5** = Strongly Agree

Coding	Items	1	2	3	4	5
D1	Credit risk monitoring is one of the most critical functions of commercial bank risk managers.					
D2	Bank management should closely monitor the performance of credit so as see which ones are not performing as intended.					
D3	Effective credit risk control ensures that credit risks are effectively recognised earlier so that applicable control measures are put in place.					
D4	Efficient risk monitoring mechanisms have a positive influence on risk administration practices of commercial banks.					
D5	There is a positive influence of credit risk monitoring on non-performing loans of commercial banks.					

SECTION E: Risk Control and Non-Performing Loans (RCNPL)

10. The researcher is interested in establishing the link between credit risk control and non-performing loans. Indicate the extent to which you agree with the following items using the following ratings:

1 = Strongly Disagree, **2**= Disagree, **3** = Neutral, **4** = Agree and **5** = Strongly Agree

Coding	Items	1	2	3	4	5
E1	It is important for commercial banks to have written down procedures on credit sanctioning.					
E2	The endorsement of credit risk control experts should be done by the Board of Directors of the bank.					

E3	Credit management practices entail that individuals who are sanctioned with credit control need not to have the client relationship responsibility.					
E4	Credit risk control mechanisms are a crucial component of the credit risk administration which influences the performance of credit.					
E5	Credit default is mainly attributed to weak credit control mechanisms within banking institutions.					
E6	Credit risk control has a significant positive effect on non-performing loans in commercial banks.					

11. State other factors that you think have an influence on the performance of loans in the space provided.

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12. Do you have any other comments regarding the influence of credit risk management on non-performing loans? **Yes**………………..**No**………………
   If "**Yes**", please write down your comments on the space provided.

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Thank you for sparing your precious time!!!!