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The Impact Of Credit Risk Management Practices On The Level Of Non-Performing Loans At Fbc Bank (2009 – 2021).

BY

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DEDICATION

I want to dedicate this dissertation to my Husband, Mother and Siblings, who have always been there for me with their unwavering support and prayers.

ABSTRACT

The purpose of this study was to analyse the impact of credit risk management practices on the level of non-performing loans at FBC Bank from 2009 to 2021. Since the adoption of the multiple currency system in 2009, the banking sector in Zimbabwe witnessed an upward surge in non-performing loans rising from 1.8% to close at 16% as of 31 December 2013. Many banks were closed by the regulatory authorities during the period 2011 and 2012 and in almost all cases; the issue of non-performing loans and credit risk management practices were apparently cited. Emphasis is now being placed on credit risk management practices to combat the problem of non-performing loans and in view of the importance attached to credit risk management practices, it is critical to study its impact on non-performing loans as it also impacts the bank's lending ability and profit margin. The target population is categorised into two; the quantitative and qualitative study populations. The population for the quantitative portion of this study consists of all Branch Credit Analysts and all Head Office Accounts Relationship managers, who deal directly with client loans. FBC Bank has 56 branches around Zimbabwe and its Head Office is located in Harare, Zimbabwe. There is a total of 86 branch Credit Analysts also known as Loan officers and a total of 80 Accounts Relationship Managers at Head Office. To ensure that the research findings can be generalised to the entire FBC Bank, the research will draw its sample elements from all FBC branches in the country. The target population consists of 166 credit oriented staff, all of whom are conversant with credit risk management strategies the Bank had adopted over the years. On the other hand, the target population for the qualitative portion of the study consists of 6 top Risk Managers at FBC Bank. The research data was collected through questionnaires and interviews. The study used primary and data and the data was presented using tables, graphs and pie charts. The study findings established non-performing loans are a problem at FBC Bank. It was further established that lenient credit terms, poor credit policy and poor credit monitoring are the main causes of non-performing loans at the branch. The study findings established that it was strongly agreed that there is a relationship between credit risk management practices and the level of non-performing loans. Inadequate credit risk management results in high non-performing loans therefore credit risk management have got an impact on non-performing loans. The study findings established that credit applications were not thoroughly assessed before final approval thereby rendering credit risk management practices ineffective. It was however established that the bank has put in place mechanisms to combat the non-performing loan book. This study concludes that credit risk management practices has got an impact on non-performing loans and inadequate credit risk management leads to high non-performing loans. The study further concludes that there is a negative relationship between credit risk management and non-performing loans. Weak credit risk management systems invariably results in high non-performing loans. This study recommends enhancement of credit risk management systems to avoid concentrated lending. Clear and sound credit granting and approval procedures should be established to ensure granting of loans to deserving clients only and that no individual is able to override established credit granting process. The study also recommends the use of credit limits, credit insurance and collateral to curb non-performing loans. The study further recommends adoption of relationship management approach to curb misuse of borrowed funds by clients.

Keywords: Credit Risk Management, Non-performing loans, Bank performance

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

Many researches on banks profitability and credit risk management perceive that the rate of capital accumulation in the banking sector depends upon the control of quality and efficiency of its credit risk management (Kargbo *et al.,* 2015). Therefore, the very nature of banking business is so sensitive because credit creation process exposes banks to high default risk, high level of Non–Performing Loans (NPLs) and thereby affecting its liquidity and general operation that might lead to financial distress including bankruptcy (Kargbo *et al.,* 2015). Sound credit risk management framework is therefore indispensable, which is the core idea of the study that was conducted by Maluni (2009), as the level of non-performing loans are directly related to the way credit risk is managed. This chapter highlights the background to the study, the statement of the problem, research objectives, research questions, research hypotheses, research justification and the scope of the research.

1.1 Background of the study

Banks play an important role of allocating and distributing people's savings for use in most productive investment (DAC, 2014). Their intermediary function is essential for economic activity as it enhances the productivity and efficiency of the economy as a whole. If banks' amount of disposal of non-performing loans continues to exceed their profits, it will reduce banks' net worth and lower their risk-taking capacity, making it difficult to invest funds in risky projects and to realise potentially productive businesses (Deloitte, 2021). In this way, the problem of non-performing loans lowers banks' intermediary function. Another challenge is when the banks hold non-performing loans for a long time without disposing them. In this case banks incur costs other than the amount of disposal of non-performing loans (EY, 2021). That is to say, by continuing to hold non-performing loans, or assets that do not generate returns, banks would lose returns that they would have earned if they had collected the loans (this is

called “opportunity cost”). Credit risk continues to be a challenge while been an important commercial function as it impacts the sustainability and viability of the banking sector (Serwadda, 2018). Bank-specific factors and macro-economic factors are the two issues concerning NPLs or credit risk. The subsequent subsections explore the problem of Non-Performing Loans (NPLs), credit risk and credit risk management starting with the international perspective zeroing in on Zimbabwean context.

1.1.1 Worldwide perspective

In the past three decades, several countries in developed, developing and transition economies experienced several banking crises requiring a major overhaul of their banking systems (IMF, 2016). The failures are mainly attributed to NPLs levels which had sky-rocketed due to poor credit risk management practices by the banks worldwide (IMF, 2016). Non – performing loans had been a major cause of bank failure around the world according to the Global Economy Forum (2017).

The Global Economy Forum (2020) provided the world yearly average statistics in the level of Non – Performing Loans (NPLs) from 2012 to 2019 as well as countries which recorded highest and lowest levels in Non – Performing Loans worldwide. The average non – performing loans for 2019 was 7.29 percent. The highest value was in Cyprus: 46.95 percent and the lowest value was in Macao: 0.14 percent. The average for 2018 was 7.39 percent. The highest value was in Cyprus: 47.75 percent and the lowest value was in Macao: 0.12 percent. The average for 2017 was 7.32 percent. The highest value was in Cyprus: 44.97 percent and the lowest value was in Turkmenistan: 0.01 percent. The average for 2016 was 7.23 percent. The highest value was in San Marino: 42.44 percent and the lowest value was in Turkmenistan: 0.01 percent. The average for 2015 was 6.86 percent. The highest value was in Mauritania: 25.7 percent and the lowest value was in Turkmenistan: 0.01 percent. The average for 2014 was 6.59 percent. The highest value was in Mauritania: 39.2 percent and the lowest value was in Turkmenistan: 0.01 percent. The average for 2013 was 7.19 percent. The highest value was in Afghanistan: 49.9 percent and the lowest value was in Turkmenistan: 0.06 percent. The average for 2012 was 6.37 percent. The highest value was in Nigeria: 37.25 percent and the lowest value was in Turkmenistan: 0.09 percent.

1.1.2 The African context

The problems of the African banking industry became exacerbated and peaked in the aftermath of the global financial meltdown of 2007 – 2009 (Onyiriuba, 2019). The monster, credit risk continues to ravage and take its toll on banks and the financial system (Onyiriuba, 2019). Unfortunately, the current state of the African banking industry shows that some of the operators have not learned from past mistakes. Neither does the situation give hope that they are willing to turn over a new leaf (Deloitte, 2021). As usual, some African banks are more obsessed with meeting budget goals at the expense of credit risk (Onyiriuba, 2019). Like the infamous banks, they do so in a reckless manner that is evident in excessive credit risk-taking and imprudent lending. This has been the greatest undoing of the African banking industry, one that defines its perennial crisis (Onyiriuba, 2019).

The continuous rise in NPLs in African banks reveals the lack of appetite and quest to address the buildup of a credit risk crisis (Onyiriuba, 2019). According to the recommendations of a survey by Deloitte (2021), Africa banks need to respond to the credit risk crisis with appropriate internal risk management contingency measures. Unfortunately, rarely does bank management in Africa take the initiative and act in this manner (Onyiriuba, 2019). In most cases, credit risk crises in recent history have caught bank managements off guard, if anything.

In Nigeria, for example, the situation worsened from the 1990s and lingered into the twenty-first century, following the deregulation of banking business during the mid-eighties. Certainly, the architects of the government's economic reforms in the eighties would never have imagined that a liberalized banking industry would breed an intractable crisis, especially in the lending function (Onyiriuba, 2019). In Kenya two local Banks and ten Non-Bank Financial institutions were closed or taken over between 1984 and 1989 (Masunda, 2013). In Nigeria four local banks were put into liquidation in 1994 while in 1995 13 local banks were taken over by the Central Bank of Nigeria. The reasons for these are chiefly; insider lending, lending to high risk borrowers leading to rising NPLs, macro-economic instability and to a lesser extend Liquidity support and Prudential regulation (Masunda, 2013).

In West African countries NPLs present a significant risk to the banking sector (Adeola & Ikpesu, 2017). Uncontrolled or high levels of NPLs can catalyse the deterioration of not only one bank, but also the entire banking system and the economy, provided that banks rely to the maximum extent on performing loans for their revenues. Rising levels of NPLs in West Africa has had some severe consequences. For example, rising levels of NPLs in Benin, Burkina Faso, Cape Verde, Senegal,

and Libera inhibit the commercial banks in these aforementioned countries from refinancing the defaulting customer, which once again places the defaulters in a bad low-productivity loop (Kedir *et al.*, 2018). Due to the variations, lenders need to be vigilant to follow predetermined strict criteria and ensure that certain risks are resolved and, if not, at least lower the risk of default on loans.

1.1.3 The Zimbabwean context

The increase of non-performing loans in Zimbabwe has generated great interest against a background of a debilitating liquidity crunch facing the country (African Development Bank, 2020). Despite a significant growth in earnings, Zimbabwe's banking sector remains fragile due to rising non-performing loans (NPLs) as the credit risk remains high on account of deteriorating macro-economic conditions as shown by latest market statistics (RBZ, 2021).

According to the RBZ (2020) report the ratio of Non-Performing Loans (NPLs) to Total Loans (NPL/TL) for Commercial Banks in Zimbabwe increased significantly since 2009 with 4.0% as at 31 December 2009, 5.1% as at 31 December 2010 and 7.6% as at 31 December 2011. This was followed by a 78% increase in the NPL/TL ratio in 2012 which saw a jump from 7.6% in 2011 to 13.5% in 2012. Even though the ratio remained static at 15.9% in 2013 and 2014, it rose again by 4.4% to 16.6% where it remained relatively stable until the end of the year 2016. In 2017 and 2018 respectively the RBZ reported the NPL/TL ratio of 17.4% and 17.9%. The year that followed recorded a 1.2% rise in the ratio of NPLs to total loans from 17.9% in 2018 to 18.1% in 2019. The year 2020 reported a ratio of NPLs to total loans of 19.5% which was expected to further rise by 2% in 2021.

Since the year 2012, Zimbabwean commercial banks have adopted a cautious approach to lending following a sharp rise in non-performing loans. However, the rate of NPLs has been ever increasing implying a need to investigate on the effectiveness of the strategies being implemented by the Commercial Banks to curb the rise in NPLs. Analysts argued that growing bad loans at a time the loan books are shrinking signals tight economic conditions that are making it difficult for loans to be honoured, while banks are becoming more cautious with their lending to manage the risk.

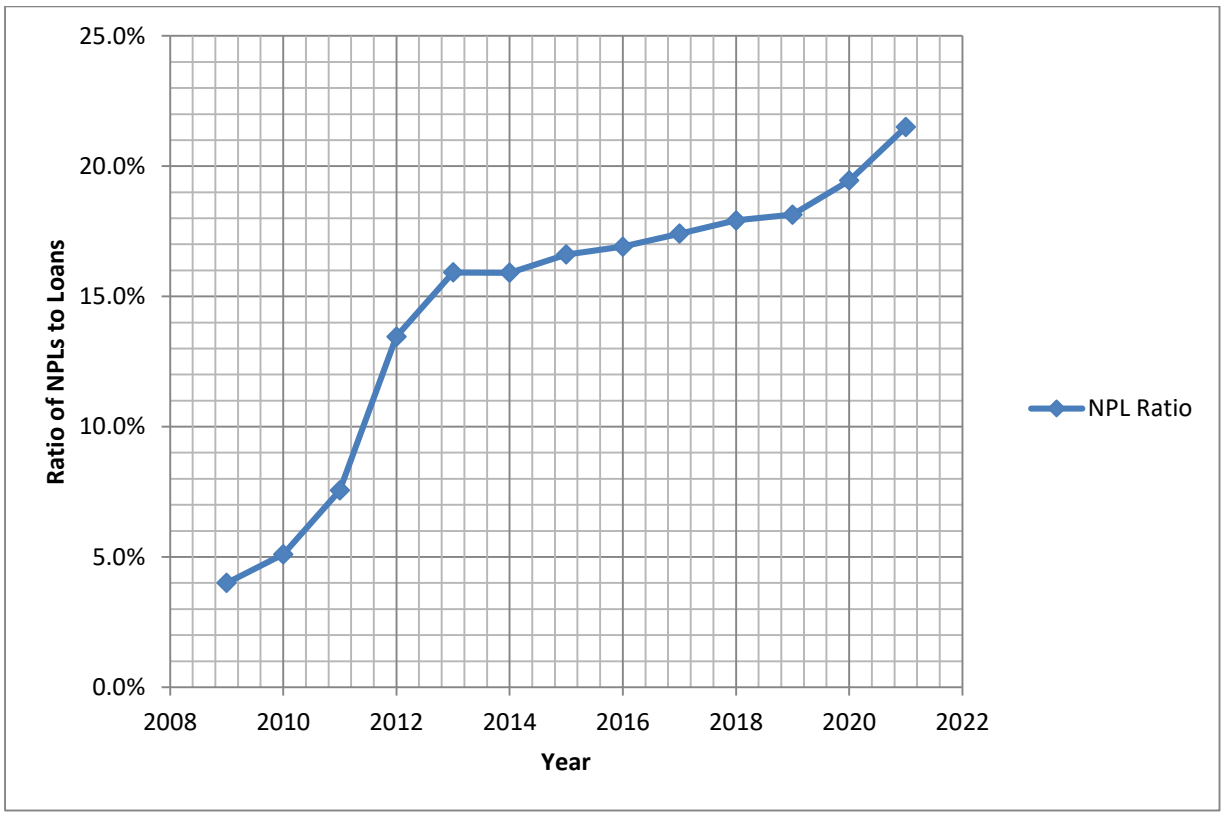
Credit risk in the Zimbabwean banking sector remained high as reflected by the rise in the ratio of non-performing loans to total loans (NPL/TL) from 4.0% in 2009 to an estimated 19.5% in 2020 which translates to 386.3% increase over the 10-year period. The high level of non-

performing loans is partly a reflection of macroeconomic challenges that have militated against borrowers' ability to service loans, as well as institution specific weaknesses. In 2019, RBZ governor cited that Zimbabwe needed to come up with creative financial structures to deal with the problem of NPLs.

"We need to come up with financial structures to deal with NPLs so that they don't drag down the economy. That will also give banks the capacity to lend more to business. There is however need to ensure that they don't end up with non-recurrent problems," Mangudya (2019).

The graph below depicts the trend in the ratio of non-performing loans to total loans over the period 2009 to 2021:

Fig 1.1: Non-performing loans to total loans (2009 – 2021)



Source: *(RBZ, Annual Report on Bank Supervision, 2021)*

The establishment of ZAMCO and Credit Registry coupled by institution specific measures being instituted by various banking entities are envisaged to address the scourge of NPLs (RBZ, Annual Report on Bank Supervision, 2014). This study seeks to investigate the effect of the credit risk management framework of FBC Holdings Limited on the level of Non-Performing

Loans (NPLs). Like other Commercial banks FBC has also been plagued by a significant rise in NPLs since 2013. As a result, there has been an effort since 2016 to restructure its risk management framework with more effort on credit risk management in order to curb a rise in NPLs.

1.1.4 Risk Governance Framework of FBC Holdings Limited

Risk management framework In line with the Group's risk strategy, size and complexity of its activities, the Board established a risk governance structure and responsibilities that are adequate to meet the requirements of a sound risk management framework (FBC Financial Report, 2020). The Group's Board of Directors has the ultimate responsibility for ensuring that an adequate and effective system of internal controls is established and maintained (FBC Financial Report, 2020). The Board delegates its responsibilities to the following Committees through its respective Board Committees:

- Group Risk and Compliance Committee,
- Group Audit Committee,
- Group Human Resources and Remuneration Committee,
- Group Finance and Strategy Committee,
- Credit Committees for the Bank and Building Society,
- Loans Review Committees for the Bank and Building Society and
- Assets and Liabilities Committees ("ALCO") for the Bank and Building Society

The specific duties delegated to each committee of the Board and its respective Management Committee are outlined in the terms of reference for the specific committees. In addition to the above Committees, the following three risk-related functions are directly involved in Group-wide risk management:

- Group Risk Management,
- Group Internal Audit and
- Group Compliance.

Group Risk Management Division assumes a central role in oversight and management of all risks that the Group is exposed to in its various activities (FBC Financial Report, 2020). The Head of Group Risk Management is responsible for recommending to the Group Risk and Compliance Committee and the Board Risk and Compliance Committee a framework that ensures the effective management and alignment of risk within the Group (FBC Financial

Report, 2020). The Head of Group Risk Management is responsible for the process of identifying, quantifying, communicating, mitigating and monitoring risk.

Group compliance is an independent compliance management activity that is headed by the Group Compliance Manager who reports administratively to the Group Chief Executive and directly to the Group Risk and Compliance Committee. The Group Compliance Manager has unrestricted access to the Chairman of the Group Risk Compliance Committee (FBC Financial Report, 2020). Group Internal Audit independently audits the adequacy and effectiveness of the Group's risk management, control and governance processes. The Divisional Director of Group Internal Audit, who reports administratively to the Group Chief Executive and functionally to the Chairman of the Audit Committee, provides independent assurance to the Group Audit Committee and has unrestricted access to the Chairman of the Group Board Audit Committee. The principal risks to which the Group is exposed to and which it continues to manage include Credit risk, Market risk, Liquidity risk, Reputational risk, Strategic risk, Operational risk and Compliance risk (FBC Financial Report, 2020). This study is premised primarily on the company's credit risk management practices.

1.1.5 FBC Holdings credit risk management system

Credit risk is managed through a framework of credit policies and standards covering the identification, management, measurement and control of credit risk. These policies are approved by the Board, which also delegates credit approvals as well as loans reviews to designated sub committees within the Group. Credit origination and approval roles are segregated (FBC Financial Report, 2020). The Group uses an internal rating system based on internal estimates of probability of default over a one year horizon and customers are assessed against a range of both quantitative and qualitative factors (FBC Financial Report, 2020). Credit concentration risk is managed within set benchmarks by counterparty or a group of connected counterparties, by sector, maturity and by credit rating. Concentration is monitored and reviewed through the responsible risk committees set up by the Board (FBC Financial Report, 2020). The Group through credit originating units as well as approving committees regularly monitors credit exposures, portfolio performance and external environmental factors that are likely to impact on the credit book. Through this process, clients or portfolios that exhibit material credit weaknesses are put on watch list for close monitoring or exiting of such relationships where restructuring is not possible. Those exposures which are beyond

restructuring are downgraded to Recoveries and Collections Unit (FBC Financial Report, 2020).

Portfolios of financial assets and financial liabilities that are exposed to market risk and credit risk that are managed by the Group on the basis of the net exposure to either market or credit risk are measured on the basis of a price that would be received to sell a net long position (or paid to transfer a net short position) for the particular risk exposure. Portfolio level adjustments, e.g. bid-ask adjustment or credit risk adjustments that reflect the measurement on the basis of the net exposure – are allocated to the individual assets and liabilities on the basis of the relative risk adjustment of each of the individual instruments in the portfolio (FBC Financial Report, 2020).

1.2 Problem Statement

Lending is considered the major function of banks and it impairs the profitability of banks if it is not managed well. Many financial institutions in Zimbabwe have been affected by non-performing loans. Since dollarization the value of non-performing loans is ever increasing, and this has attracted the attention of the Reserve Bank of Zimbabwe (RBZ) and depositors who now fear for their hard earned savings (RBZ, 2021). Some banks have been closed in the recent past partly because of non-performing loans. Bankers Association of Zimbabwe has revealed that the high rate of NPLs has locked as much as US$700 million in potential productive financing (BAZ, 2021). By 2021 the level of NPLs has risen to 21.5% which translates to 17.5% increase relative to 2010 level. According to the Bankers Association of Zimbabwe (BAZ) the tolerable level of NPLs is 5% implying that the current level of NPLs in Zimbabwe require immediate attention. In an attempt to curtail the level of NPLs, several banks in Zimbabwe have invested substantially in credit risk management (CRM). For instance, the FBC Bank has revealed in 2018 that it has invested US$27 million towards credit risk management systems aimed at controlling and monitoring credit risk. The rise in non-performing loans has been taken under consideration by many banks in Zimbabwe, as banks are now looking at different methods on how to reduce non-performing loans. Amongst these methods credit risk management has been on the forefront amongst commercial banks in Zimbabwe. Makori (2018) stated that non-performing loans are increasing because of the lack of effective credit risk management and that can be threat to the bank's profitability.

However, there had been no research which had been conducted to test and assess the effectiveness of the credit risk management initiatives which were adopted by the FBC Bank on reducing the level of non-performing loans. It is upon this backdrop that the researcher was motivated to conduct this study by assessing the impact of credit management practices on controlling the level of NPLs in Zimbabwe with special reference to FBC Bank.

1.3 Research Objectives

The study seeks to achieve the following objectives:

1. To determine the factors affecting the level of non-performing loans at FBC Bank.
2. To ascertain the effect of NPLs on bank performance at FBC Bank.
3. To assess the relationship between credit risk management practices and the level of NPLs at FBC Bank.
4. To assess the effect of technology and innovative systems on credit risk management at FBC Bank.

1.4 Research Questions

1. What are the critical factors affecting the level of non-performing loans at FBC Bank?
2. To what extent does NPLs affect financial performance of FBC Bank?
3. How is the level of NPLs at FBC Bank related to credit risk management practices adopted by the bank?
4. To what extent does the adoption of technology and innovation impact on credit risk management at FBC Bank?

1.5 Significance of the study

Credit risk management is recognised in today's banking business as an integral part of good management practice. Inadequate credit risk management may result in circumstances so catastrophic in nature that the bank cannot remain in business. Since credit risk management is still in its nascent stage in Zimbabwe, it is envisaged that the study will make a theoretical contribution and provide prolific observations to ascertain as well as understanding the impact

of credit risk management on non-performing loans in banks. The findings of this study will provide well researched information which can be useful to the bank and researchers for academics in the area of credit risk management.

Besides the above, the research is also important to the following:

1.5.1 To the Researcher

- The research will sharpen the tactical, technical and analytical skills of the researcher through exploring different literature data which is critical in the work life of the researcher.
- It will give the researcher the opportunity to contribute to the banks better management and reduction of non-performing loans.

1.5.2 To the Organisation

- The study will provide top management team of financial institutions guidelines of making vital decisions regarding credit risk management strategies as areas requiring special attention in credit control and monitoring will be highlighted.
- Results will help bank management in formulating and implementing credit management policies with the objective of reducing and monitoring non-performing loans in order to protect its various public.

1.5.3 To the University

- The research will add to the existing library and knowledge within the institution of higher learning
- The research will also assist future academics in their research studies as they will have a practical basis of establishing their studies as well as provoking debate on the topic.
- It will provide knowledge to the academic community regarding analysis of credit risk management practices and its relationship to the level of non-performing loans.

1.5.4 To the Society

- The study will provide the Reserve Bank, which is the main regulator; overall observations of the credit risk management strategies implemented and provide support to financial institutions in their effort of managing credit risk.
- It will also form a basis of strengthening regulatory framework to commercial banks and establish foundation of long-term growth as measures for credit risk management will be provided.

1.6 Scope of the study

The main focus of the study will be FBC bank from 2009 to 2021. The crucial information required to assess the influence of the bank's credit risk management practices on the level of NPLs will be collected from all 13 branches of the bank and head office departments which deals with loans. The focus will be on credit risk management practices and non-performing loans. The findings of the study can also be generalized to all commercial banks in Zimbabwe and Africa. Information will be gathered using questionnaires and personal interviews. Some of the foreseen limitations would be as a result of the sensitivity of the line of work that banks do, information may not be easily divulged. Secondly, though not in a great extent some employees in the credit risk management may not be aware of the relationship between the credit risk management and non-profit loans to respond to questionnaires.

1.7 Limitations of the study

The study is premised on investigating the impact of credit risk management on the level on NPLs with special reference to FBC Bank. However, having to focus the study on FBC implies that the study results, conclusions and recommendations will be specific to FBC Bank and cannot be generalised to the entire banking sector in Zimbabwe. The problem of NPLs is plaguing the entire banking sector and it could have been suitable to conduct the study focussing on the entire banking sector. Even though the study results are not generalisable to the entire banking population, FBC being the pioneer and champion of credit risk management its credit risk management framework need to be assessed with respect to NPLs.

1.8 Definition of terms

Credit

Credit is derived from a Latin word "credere" meaning trust. When a seller transfers his wealth to a buyer who has agreed to pay later, there is a clear implication of trust that payment will be made at agreed date (Aduda and Gitonga, 2011).

Risk

Holton (2009) explains that risk is exposure to a proposition of which one is uncertain. It is a threat of damage or loss or any other negative occurrence that is caused by external or internal vulnerabilities that may be avoided through preemptive action.

Credit Risk

Credit risk is the current and prospective risk to earnings or capital arising from an obligor's failure to meet the terms of any contract with the bank or otherwise to perform as agreed (Kargi, 2011).

Credit Risk Management

This is defined as identification, measurement, monitoring and control of risk arising from the possibility of default in loan repayments (Coyle, 2011).

Non-Performing Loans (NPL)

This is a credit facility of which the interest and or principal amount has remained past due for a specific period of time. They can also be defined as loans that the principal or interest has remained unpaid for at least ninety days (Ombaba, 2013).This represent possible loss of funds due to loan defaults.

1.9 Organisation of the study

Chapter 2 – Reviews the literature related to causes of non-performing loans and possible solutions. This helps to find out what other researchers have revealed in this research area. It also shows gaps in the literature which must be filled with further research.

Chapter 3 – it looks at the methodology employed in this research to get research data. It emphasizes on justification of all the methods used to collect information as well as showing why other methods are not appropriate for this study.

Chapter 4 – shows presentation and analysis of the data collected from the research. It also presents interpretations of information from the findings.

Chapter 5 – discusses recommendations based on the results of the research as well as highlighting areas of further research.

1.10 Chapter summary

This chapter highlighted the background to the study, the statement of the problem, research objectives, research questions, research significance and the scope of the research, its limitations, conceptual framework and layout of the rest of the study. The following chapter focusses on the review of empirical literature on credit risk management and its implications on NPLs.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In studying the impact of credit risk management practices on non-performing loans, this chapter provides a synthesis of theoretical and empirical literature on credit risk management practices and non-performing loans. The chapter provides a critical analysis of available literature on credit risk management practices and non-performing loans on banks. The areas to be covered in this chapter are the conceptual framework, theoretical review, empirical review and summary of the literature review.

2.1 Theoretical Framework of Lending

Banks provide financial intermediation services, sourcing funds from surplus units and provide them to deficit units (Kwambai & Wandera, 2013). This function brings together lenders and borrowers thereby ensuring smooth flow of economic activities. The lending function is one of the key activities of financial institutions that generate significant revenue (Kwambai & Wandera, 2013). Banks get income from interest and administration fees levied on each loan processed. Despite being a cash cow for banks, lending is risky because borrowers may fail to repay back causing bank failure and impairing bank profits. Failure to repay borrowed money is revealed through the level of NPLs. To avoid NPLs, there is need to ensure close monitoring of borrowing clients and carefully screen loan applicants to avoid adverse selection. Waweru and Kalani (2009) posited that the nature of banking business exposes them to default risk and this can be reduced by cautious credit risk assessment and making adequate provision for doubtful and bad debts.

The main reason for banks to source deposit in the market is to ensure that they have sufficient funds to lend. Through picking deposit in the market banks will accrue interest cost on deposit and this must be offset by interest that will accrue from lending. If banks accrue deposit and they fail to on-lend, profitability will decrease due to cost on deposits. If a financial institution has idle money, it may be forced by circumstances to lend even to risk activities thereby creating non-performing loans that will adversely affect profitability. Waweru and Kalani

(2009) indicated that banks create non-performing loans if they lend to risk activities. Risk activities have high chances of failure but if they succeed they will bring good fortune to banks usually when interest charged was in tandem with the risk attached.

Mishkin (2007) indicated some financial institutions do not do proper credit assessment which result in sub-standard lending book for the organisation. This may lead to higher levels of non-performing loans. Proper credit assessments are important to any financial institution considering that the consequences of creating a bad lending book for the organisation are heavy and there is also contagion effect in the financial services sector. Failure of one bank can affect the other banks because of the linkages within the financial system. Public confidence is also affected by failure of one bank and the effect will be felt into the whole system. Figure 3 below shows the financial intermediation framework where two ways of channelling funds to deficit units are indicated, direct and indirect financing. Funds from surplus units can be channelled directly to users of funds through the financial market or they can go via financial institutions.

Direct finance requires an efficient financial market for it to function smoothly. This research will be biased towards indirect finance where funds are channelled to users through banks. Banks collect depositors' funds and lend to borrowers. In the process they assume significant credit risk. Major borrowers and depositors are households, business firms, government and foreigners. As highlighted previously, banks accrue cost on deposits and charge interest on lending. Figure 3 below shows that deposits come from households, business firms, government and foreigners. Deposits from foreigners are very important in Zimbabwe due to lack of liquidity. Funds from outside Zimbabwe will improve the availability of liquidity thereby improving the lending function in the banking sector. On the other hand, the government has set stringent rules on lending to organisations outside Zimbabwe. The government through the Central Bank would ensure that there is no externalisation of funds which adversely affect the economy. As shown in Figure 2.1 again lending can be done to business firms, government, households and foreigners.

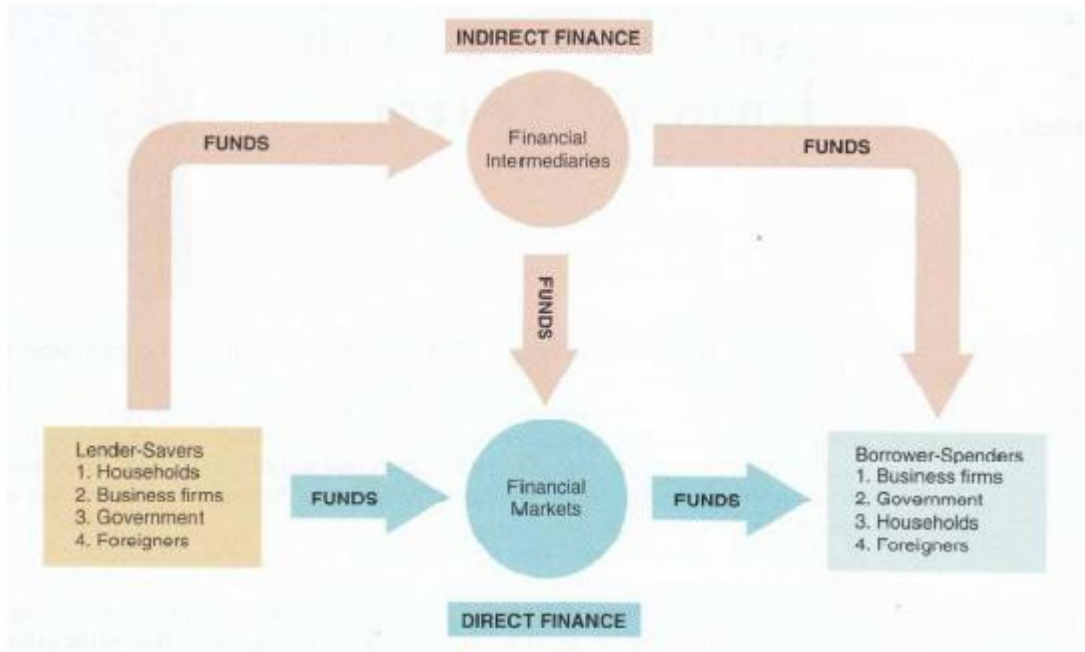


Figure 2.1: Flow of funds through the financial system

Source: Mishkin (2007, p. 24)

Lending to government is considered safe but recently we witnessed the default of Greece's government on loans that were availed by other nations and banks. This shows that Governments are no longer safe lending units. In Zimbabwe, the government is struggling to pay off debt held with international financial institutions. Government was considered safe because of its ability to print money. Printing money is inflationary if done to excess as witnessed in Zimbabwe during the Zimbabwe Dollar era. The ability to print money is possible when the country is using its own currency. The situation in Zimbabwe is different because of the use of multiple currencies from other country that the Central Bank has little control over. In this case lending to the government in Zimbabwe is more risky that other countries using their own currencies.

Lending institution must consider a lot factors that influence loan repayment to reduce non-performing loans problems in the financial services sector. Carefully prelending assessments and monitoring of advanced facilities is very important to ensure that borrowers repay banks (Mishkin, 2007).

2.1.1 The Asymmetric Information Theory

Richard (2011) cited in Kwambai and Wandera (2013) note that the theory of asymmetric information revealed that it is complex to differentiate between good and bad borrowers and this could result in adverse selection and moral hazard problems. Information asymmetry results in misallocation of resources, a situation that can be called adverse selection. It has been argued that borrowers are able to negotiate better terms in a lending contract because they have more information than the lender (Kwambai and Wandera, 2013). In this case the lender can either make a wrong or right decision related to a transaction. Bester (1994) and Bofondi and Gobbi (2003) cited in Kwambai and Wandera (2013) argued that adverse selection and moral hazard have led to a considerable growth of non-performing loans in banks. Banking institutions must have a robust system that allows them to have as much information as possible about the borrower. Banking institutions must also share information about defaulting clients, multiple borrowers and they must make use of Credit Reference Bureau. In addition, Financial Clearing Bureau (FCB) has been very useful in tracking clients with bad financial records. These are some of the possible ways to reduce the effect of adverse selection thereby reducing the possibility of non-performing loans.

Leply (2017:149) cites that information asymmetry refers to a situation where business owners or manager know more about the prospects for, and risks facing their business, than do lenders. It describes a condition in which all parties involved in an undertaking do not know relevant information (Chambers and Butler, 2016:45). In a debt market, information asymmetry arises when a borrower who takes a loan usually has better information about the potential risks and returns associated with investment projects for which the funds are earmarked (Miller, 2015:134).

The lender on the other hand does not have sufficient information concerning the borrower (Leply, 2017:147). Chambers and Bulter (2016:232) point out that perceived information asymmetry poses two problems for the banks, moral hazard (monitoring entrepreneurial behaviour) and adverse selection (making errors in lending decisions). Banks will find it difficult to overcome these problems because it is not economical to devote resources to appraisal and monitoring where lending is for relatively small amounts. This is because data needed to screen credit applications and to monitor borrowers are not freely available to banks. (Leply, 2017:76).

Bankers face a situation of information asymmetry when assessing lending applications (Duaka, 2015:19). The information required to assess the competence and commitment of the entrepreneur, and the prospects of the business is either not available, uneconomic to obtain or difficult to interpret (Leply, 2017:33). This creates two types of risks for the Banker (Deakins, 2014:45). The risk of adverse selection which occurs when banks lend to businesses which subsequently fail (type II error), or when they do not lend to businesses which go on to become successful or have the potential to do so (type I error) (Deakins, 2014:93). This information asymmetry tends to affect borrowing and lending due to lack of trust (Leply, 2017:93). Information asymmetry also tends to be detrimental to the lending institutions if the prevailing economic situations allow for arbitrage.

James McDonald (1994:2) stated that the signalling hypothesis would be predicated upon the bank operating as a firm-external agent issuing an implied audit of the firm, in that the bank has superior information about the future cash flows of the firm's investments. In supplying the debt required to finance these investments. The bank allows investors to view this implicit audit as supplying new positive information to the market. Investors acting on this information will generate abnormal positive returns. Additionally, positive abnormal returns may be generated based upon the self-selection process inherent in the variables of the loan commitment contracts. It may be that the higher quality firms seeking loan commitments dominate that section of the credit market.

The theory of information asymmetry comes in effect where the borrower has much better information about his financial state than the lender .According to (Auronen, 2003: 6-15) in Richard (2011: 47), it may be difficult to distinguish between good and bad borrowers, which may result into adverse selection and moral hazards problems. The lender has difficulty knowing whether it is likely the borrower will default. To some extent the lender will try to overcome this by looking at past credit history and evidence of salary. However, this only gives limited information. The theory argues that in the market, the person that possesses more information on a particular item to be transacted (in this case the borrower) is in a position to negotiate appropriate terms for the transaction than the other party (in this case, the lender) (Auronen, 2003: 6-15) in Richard (2011: 47). The party that knows less about the same specific item to be transacted is therefore in a position of making either right or wrong decision concerning the transaction. Adverse selection and moral hazards have led to significant accumulation of nonperforming loans in banks (Bester, 1994; Beyond and Gobbi, 2003: 4). The theory is relevant in the sense that, if borrowers could provide true and complete

information regarding their financial status to the lenders at the time of seeking for credit, then lenders (banks) could be at a better position of making informed credit decisions thereby reducing the risks associated with credit. When credit risk is reduced, level of NPA is reduced hence a good portfolio quality for the financial institutions.

2.1.2 Adverse Selection Theory

Adverse selection occurs as a result of information asymmetry, and it occurs before the transaction. Stiglitz and Weiss (1981) cited in Armendariz and Morduch (2010) initiate several adverse selection models to assist banks with first-class information about the riskiness of the borrowers' projects. Failure to distinguish the riskiness of borrowers' projects would compromise interest rate charges on clients. According to Armendariz and Morduch (2010) high interest rates charged to borrowers drive out worthy clients out of the credit market. This is attributed to failure to distinguish creditworthy and poor credit applicants thereby charging the same interest rate for all. Armendariz and Morduch (2010) added that the problem is compounded by failure to have laws that effectively enforce contracts. Stiglitz and Weiss (1981) cited in Nawai and Shariff (2010) urge banks to carefully select borrowers from all applicants and proceed to monitor the usage of borrowed funds. This will reduce adverse selection problems and moral hazard. In a lending scenario borrower has more information that lenders and it is expensive for lenders to get all the information. Adverse selection has been cited as one of the causes of nonperforming loans. Borrowers misrepresent information on their loan application creating problems to lenders. True information can be revealed at a cost which might outweigh the benefits. Overall, the problem of adverse selection has been attributed to poor credit assessment which can be corrected if the lending institution put adequate control in the lending department.

2.1.3 Moral Hazard Theory

Mishkin (2007) notes that moral hazard occurs after the loan contract is finished and funds are disbursed. Client has the incentive to default if there are no future consequences to defaulting (Kwambai and Wandera, 2013). If client knows that he will not access another credit in future he will not wilfully default. Because of lack of credit information sharing among lending institutions defaulters can do away with their bad debts (Kwambai and Wandera, 2013). Due to information asymmetry problems clients engage in activities that are not in line with the agreement made with the bank. It is also difficult to assess the wealth that will accrue to

borrowers at the end of the borrowing period thereby increasing chances of moral hazard. Mishkin (2007) also indicated that it is possible for financial intermediaries to avoid problems created by adverse selection and moral hazard through proper assessment of loan applications and monitoring borrowers. Armendariz and Morduch (2010) asserts that moral hazard starts when customers attempts to escape with banks' funds. They added that moral hazard can also arise due to failure by banks to ensure that clients put maximum effort required for the success of projects that was funded by the bank. Monitoring of borrowers is very important to ensure that funds are not diverted to other uses different from the approved purpose. Diverting funds to other uses increases risk to the financial institution because of unforeseen added risk. The increased risk will be outside the interest cost charged. Banks should make frequent scheduled visits to borrowed clients to ensure funds are used for the purpose approved. Some of the visits must be in form of surprise to ensure that bank officials assess exact activities. Borrowers have the tendency to cover up their activities to bank officials and at times lie to the bank on what is exactly happening at their business premises.

2.1.4 Agency Problem

Agency problem arises as a result of separation of ownership and control (Fama and Jensen, 1983). The objectives of management may differ with those of owners which may create agency problems. In a lending environment, management might aim at increasing commissions and interest income at the expense of quality. Adverse selection of borrowers and moral hazard would arise within the organisation as management engages in insider loans and connected lending activities. Management may not put maximum effort in assessing loan applications and monitoring of the loan book thereby disadvantaging the owners of the organisation. All these activities would increase the level of NPLs. There is also priority sector funding especially to agriculture directed by government. Most of the farmers are failing to pay resulting in non-performing loans.

2.2 Key Concepts

2.2.1 Credit Concept

According to Smith (2013:542), the origins of the word 'credit' can be found in the Latin word, 'credere' meaning to trust. The fundamental nature of credit assumes an element of trust between the creditor and debtor (Maluni, 2011:102). The development of the modern industrial,

commerce and agricultural economies would not have been possible without the use of credit (Williamson, 2015:94). The reference to the use of credit can be found in the Bible over 3000 years ago in the civilizations of Assyria, Babylon and Egypt (Hill and Moore, 2015:94). Medieval Europe has a lot of evidence pointing at the development of complex systems of credit trading which started as early as the 12th Century (Smith, 2013:85). The Western Europe forged great business ties of trade such as the champagne fares and during these fares, merchants traveling to different towns in various territories came up with currency exchanges and inter-linked successful credit arrangements for the business (Smith, 2013:184). The aforementioned author added that the current global trade and commerce consequently grew out of these initiatives. According to Maluni (2011:143), modem firms must sell on credit in this competing environment to enable sales turnover. Commercial banks have therefore served as a ground for promoting inter-sector linkage in terms of financial support through credit facilities. Williamson (2015:914) added that the implication is that sound credit risk management is essential for determination of banks performance. While there are many bank performance criteria, the commonest and the one with sound theoretical foundation are solvency and profitability both of which are derived from Microeconomic theory of the banking firm (Stiglitz and Weiss, 2015:143). These two aspects can be used in assessing the bank performance in short run (in which case the focus is on profitability and liquidity) and in the long run (in which the focus is on sustainable profitability and solvency) (Maluni, 2011:164).

High provisions for bad and doubtful debts (also referred to as loan loss provisions) on short-run banks performance (profitability and liquidity) have a negative effect on banks' performance (Harris, 2014:130). The huge specific and general loan loss provisions, which according to the accounting standards are all charged to the profit and loss for the year, have made deep inroads on Commercial banks' profitability (Freeman, 2016:74). The poor financial performance has also been compounded by the reckless lending policies, high and volatile interest rates charged by commercial banks and the low yields on Treasury Bills (Maluni, 2011:243). Similarly, the loan loss provisions adversely affect a banks' liquidity position as it affects their ability to meet obligations that are currently falling due (Conford, 2000:91). The bad debt situation facing the banking sector therefore has been partly blamed on poor credit risk management on potential borrowers (Fredrick and Nyasaka, 2017:95). According to Mutungamili (2016:74), commercial banks derive income primarily from lending and securities portfolio; hence loans constitute the largest portion of banks' asset that requires good management. If loan losses exceed bank's compulsory and voluntary reserves as well as its

equity cushion, then the bank will become insolvent (Sinkey, 2015:19). The maintenance of asset quality is fundamental to sound operation of commercial banks. Commercial banks need to establish policies and procedures which ensure well documented credit granting process, strong portfolio management, effective credit review and loan classification procedures (Wu and Hang, 2007:74).

2.2.2 Credit Risk Concept

Musyoki and Salad (2012) defined credit risk as the risk of loss due to a debtor's non-payment of loan or other line of credit (either the principal or interest (coupon) or both). It can also be defined as the risk of erosion of value due to simple default and non-payment of the debt by the borrower (Karunakar, Vasuki and Saravanan, 2008). Both definitions indicate that the borrower fails to honour the contract signed with the bank to repay borrowed funds thereby creating non-performing loans. Karunakar, Vasuki and Saravanan (2008) argue that credit risk is unavoidable in lending business and it has become a dominant financial risk but it must be managed to acceptable levels. Credit risk arises when the credit quality of the debtor deteriorates or the debtor is unable to pay due to circumstances beyond the borrowers' control, for example, economic hardships. In financial intermediation business, credit risk is revealed in the form of non-performing loans (Louzis, Vouldis and Metaxas, 2010).

2.2.3 Concept of Non-Performing Loans

Selvarajan and Vadivalagan (2013) defined non-performing loans as assets that cease to generate expected revenue and reveals more risks than expected commercial risk for a period more than 90 days. When a loan is generating expected fees, interests and commission, then it is considered a performing asset. Most financial institutions in Zimbabwe have problems of non-performing loans which increases the risk banks are underwriting in their lending business. Non-performing assets and Non-performing loans are terms used interchangeable because the concept is restricted to loans (Karunakar, Vasuki & Saravanan, 2008). Non-performing loans are common in most banks, but they differ in scope and levels. Financial institutions are supposed to report non-performing loans to the Reserve Bank of Zimbabwe (RBZ) regularly to ensure the health of the financial sector is maintained. Non-performing loans affect the liquidity and cash flows of a bank and finally the profitability. In this case they pose a challenge to the viability of banks and the financial sector as a whole. From the information shown above it can be concluded that non-performing loans are a serious challenge to the financial services

sector. Non-performing loans cause economic stagnation in any country, and they lock resources in unprofitable areas (Messai & Jouini, 2013).

2.3 Credit Risk Management Framework in Zimbabwe

2.3.1 Basel II Implementation

Internationally, the most well-known regulation is the Basel Accords issued by the Basel Committee on Bank Supervision. Basel II (2004), which is the successor of Basel I (1988), is currently being in use, (Maluni, 2017:31). The overall aim of Basel II is adequate capitalization of banks and best practice risk management to reinforce the banking system's stability through "three pillars": minimum capital requirements, supervisory review and market discipline (Basel Committee on Banking Supervision, 2007:94). Many countries have adhered to their operations with Basel II. However, most developing nations are still on the way to adopt it (Mashakada, 2014:84). In those cases, central banks have a significant role in issuing nationwide control policies, guiding banks to implement them and following up banks' performance (Maluni, 2017:84).

2.3.2 Progress made in Basel II implementation in Zimbabwe

Zimbabwe has lagged behind full implementation of the Accord although a lot of progress has been made in gradual implementation of components of the 3 pillars of Basel II (Mashakada, 2017:134). The Reserve Bank of Zimbabwe published a Technical Guidance on Basel II implementation in Zimbabwe in April 2010 soliciting comments from market participants and other players such as auditing firms and analysts (Chivaro, 2016:94).

This guideline outlines the methodology and requirements for implementing Basel II in Zimbabwe. It deals with definition of capital, the calculation of the minimum capital requirements (Pillar I) for credit risk, operational risk, and market risk; supervisory review (Pillar II) and market discipline (Pillar III). Definition of capital is quite key with regulators setting caps for various components of capital. This sometimes causes challenges with accountants not agreeing to the various caps and definitions of Tier 1, Tier 2 and Tier 3 capital (Chivaro, 2016:25).

2.3.3 Challenges for the Local Financial Sector in Implementing Basel II

Implementation of Basel II in various countries has been associated with a number of challenges associated with any large project implementation process (Tsaurai, 2012:94). Fully aware of the practical aspects of implementing a more modern, complete and risk sensitive prudential framework, the Basel Committee published, in July 2004, that is directly in the wake of the New Capital Accord, a document entitled "Implementation of Basel II: practical considerations (Muregwi, 2015:13).

Already the Technical Guidance issued by the Reserve Bank of Zimbabwe requires that the core capital of a banking institution should exceed 50% of the capital base of the institution (Chivaro, 2016:94). Although this is meant to strengthen the capital base of an institution, it might be a challenge for local financial institutions to meet these requirements (Mairu, 2014:04).

2.4 Credit Flow Framework

The loan application is the first step in any credit granting initiative. According to Colquitt (2007), the loan application drives the credit granting process and all information about the borrowers is contained in the application form. Credit risk assessment has three aims which comprise the identification of primary and secondary source of repayment as well as assessing risks associated with the transaction. On the other hand, credit risk measurement involves the use of analytical tools to assess the level of risk (Colquitt, 2007). After performing credit assessment and risk measurement bank management will attempt to limit credit risk exposures and ensure that there is compensation for risk taken. They also create security to cater for default event. Colquitt (2007) indicated that risk rating is used to approve or decline a loan. This means that it is crucial in any lending business to ensure proper risk management systems and comprehensive credit risk assessment as well as provision for doubtful and bad debts to reduce credit risk (Kwambai and Wandera, 2013). Failure to do a proper lending assessment will mislead approval authorities resulting in adverse selection which aggravates non-performing loans. Credit risk is found at every step in the credit flow process. The following credit circle in figure 4 shows lending activities.

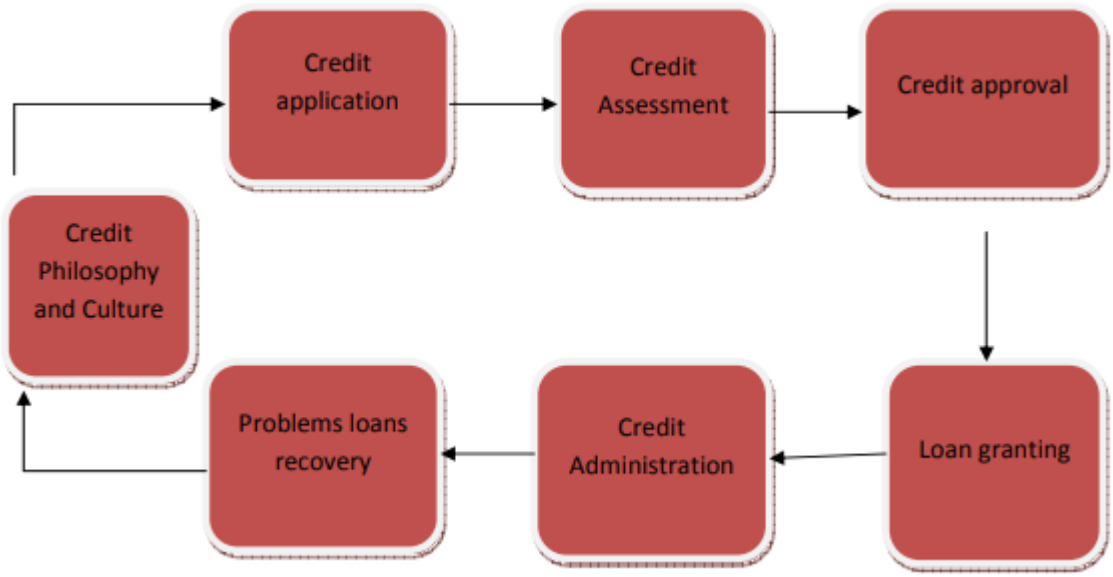


Figure 2.2: Credit process flow

Source: Adapted from Colquitt (2017, p 24)

At the loan granting stage, it is very important that terms and conditions of the loan are well documented, and security is perfected before funds are disbursed. If a client notices a loophole on the loan terms and conditions he can renege on payment and the bank may fail to recover. Colquitt (2007) posited that laxity of credit terms and security on lending activities promotes moral hazard on borrowers. Borrowers will take advantage of poor lending administration and management to delay payment and even taking the bank to court with the intention to avoid repayment.

2.4.1 Credit Administration

The Basel II regulations recommend that there must be separation of duties of personnel participating in the loan granting process (Colquitt, 2017). Auditors and monitoring authorities must be independent. Colquitt (2017) also stated that participating individuals influence the risk rating and loan loss reserves. There is need to monitor all disbursed facilities and quick follow up on all loans in arrears as this reduces non-performing loans for an institution. An organisation with an efficient and well-structured credit organisation will achieve an acceptable level of nonperforming loans. In an attempt to ensure a quality loan book, most organisations have instituted credit philosophy and credit culture in their organisations. These will help to ensure that there good coordination and all employees are following the credit philosophy and

culture set in the organisation. Variations on how things are done will be minimised thereby ensuring uniformity.

2.4.2 Credit Philosophy

A bank credit philosophy and credit culture represent the objectives, mission, short term and long term lending strategies to ensure consistent value placed on loan portfolio quality. It will also emphasise safe and sound lending practices within the organisation. Each banking institution's credit philosophy and culture reflect the customs, processes and protocols regarding how credit administered. The credit philosophy and credit culture will determine behaviour of lenders (Colquitt, 2017 p 31). Cultural attitudes and beliefs with the organisation will be aligned with the credit philosophy and culture. The brand of lenders for the organisation will be distinguished from other organisation because of the distinguished credit philosophy and culture. According to Colquitt (2017), credit philosophy is defined as a model of the bank's policy to financing, handling and monitoring of the lending risk occurring as credit risk in their book entitled Strategic Credit Risk Management. They went on to define credit culture as the cement that binds credit activities within the organisation and establishes the footing for credit discipline (Colquitt, 2017 p 35). The credit philosophy must be communicated at all levels from the Board of Directors to the lowest level employees in the lending department. All employees are supposed to follow the documented policy religiously so that there is consistency in the organisation. The policies must be documented and strategies for lenders must be spelt out clearly. This will help to manage credit risk in an organisation as well as providing clear direction to new and old employees in the organisation.

2.5 Credit Risk Management (CRM)

Credit risk management in a bank involves a set of policies to manage and monitor transactions and activities which can adversely impact banking operations, and enact proactive measures to identify, control and minimize risks (Prerryer *et al.,* 2013:95). The policies are mostly reviewed on an annual basis except for sudden happenings that urge a quick response (Brownridge, 2016:83). The policies in practice usually establish standard processes, models, practices, management tools, evaluation criteria and review time intervals which are to be implemented in the bank's entire system (Maluni, 2011:83). Abedi (2012:432) conducted a study on highway to success on credit management and proposes several models used by banks in their attempt

to improve credit management. These models include; credit scoring models, linear probability models, linear discriminant models, risk adjusted return on capital, option pricing theory models, Neural networks and 6 C's model (Saunders and Cornett, 2008) among others.

Credit risk management in a bank therefore involves its practices to minimise the risk exposure of bad debts and their occurrence (Maluni, 2011:45). For a commercial bank, lending activities form a critical part of its products and services (Smith, 2013:94). A study conducted by Greuning and Bratanovic (2009), on banking risk analysis indicated that more than 70% of a bank's balance sheet generally relates to this aspect of risk management as loans are the largest and most obvious source of credit risk. Credit risk is therefore one major risk that needs to be efficiently managed and investigated (Williamson, 2015:94). Ghauri and Gronhaung, 2016:83) cites that banks should involve screening and monitoring loan applicants to ensure that managers fund the most creditworthy borrowers.

High provisions for bad and doubtful debts (also referred to as loan loss provisions) on short-run banks performance (profitability and liquidity) have a negative effect on banks' performance (International Monetary Fund, 2012:94). The huge specific and general loan loss provisions, which according to the accounting standards are all charged to the profit and loss for the year, have made deep inroads on Commercial banks' profitability (Fredrick and Nyasaka, 2017:13). The poor financial performance has also been compounded by the reckless lending policies, high and volatile interest rates charged by commercial banks and the low yields on Treasury Bills (Stiglitz and Weiss, 2015:94). Similarly, the loan loss provisions adversely affect a banks' liquidity position as it affects their ability to meet obligations that are currently falling due (Williamson, 2015:95). The bad debt situation facing the banking sector therefore has been partly blamed on poor credit risk management on potential borrowers (Harris, 2014:9).

2.5.1 Credit criteria

According to Stiglitz and Weiss (2015:91), credit criteria are factors employed to determine a borrower's creditworthiness or ability to repay debt. These factors include income, amount of existing personal debt, number of accounts from other credit sources, and history (Mairu, 2014:12). A lender is free to use any credit-related factor in approving or denying a credit application so long as it does not violate the equal credit protections (Maluni, 2011:21).

Giving out loans to borrowers who are already overloaded with debt or possesses unfavourable credit history can expose banks to unnecessary default and credit risk (Chapman, 2016:43). To reduce these risks, banks take into consideration some common applicants' particulars such as debt to income ratio, business history and performance record, credit history, and for individual loan applicants their time on the job or length of time at residence (Mairu, 2014:81).

2.5.2 Credit Culture

According to Chirefu (2013:94), sound and effective credit risk management is enhanced by a well-established credit culture which consists of a policy that guides credit ethics, a practice that drives lending and an audit that protects assets and credit mechanism. Okupa (2015:93) added that loan officers have to be responsible and professional in order to prevent from being bias when evaluating loan applications. Many commercial banks have enhanced effective credit culture by ensuring that the reward system compensates good ethical practices and penalizes unacceptable and flawed procedures (Smith, 2013:19).

Chirefu (2013:45) cites that the credit culture of a bank is a blend of the policies, practices and experiences of the bank. It provides lenders with a common compass to guide them. A strong credit culture is what empowers lenders to act consistently and in the spirit of the bank's policies and expectations. It gets and keeps everyone marching in the same direction (Dyke, 2017:89)

2.5.3 Risk Analysis and Assessment

Banks gather adequate information about potential customers as a way of assessing the credit risk exposure. The information gathered guide banks in assessing the probability of borrower's default and pricing of the loan accordingly (Dyke, 2017:94). Prerryer *et al.* (2018:25) adds that much of this information is gathered during loan documentation. Banks even go beyond information provided by the borrower through seeking additional information from the third parties like the credit rating agencies and credit reference bureaus. Credit risk analysis (finance risk analysis, loan default risk analysis) and credit risk management is important to financial institutions which provide loans to businesses and individuals (Dyke, 2017:94). Credit can occur for various reasons: bank mortgages (or home loans), motor vehicle purchase finances, credit card purchases, instalment purchases, and so on. Credit loans and finances have risk of being defaulted (Nafula, 2015:39). To understand risk levels of credit users, credit providers

normally collect vast amount of information on borrowers. Statistical predictive analytic techniques can be used to analyse or to determine risk levels involved in credits, finances, and loans, i.e., default risk levels (Nafula, 2015:09). Credit risk profiling (finance risk profiling) is very important. The Pareto principle suggests that 80%-90% of the credit defaults may come from 10%-20% of the lending segments (Dyke, 2017:9). Profiling the segments can reveal useful information for credit risk management. Credit providers often collect a vast amount of information on credit users (Muregwi, 2015:13). Information on credit users (or borrowers) often consists of dozens or even hundreds of variables, involving both categorical and numerical data with noisy information. Okupa (2015:84) adds that profiling is to identify factors or variables that best summarize the segments.

2.5.4 Credit Scoring

Credit scoring is a credit management technique that analyses the borrower's risk. In its early meaning, credit scores` were assigned to each customer to indicate its risk level (Fredrick and Nyasaka, 2017:93). A good credit scoring model has to be highly discriminative, high scores reflect almost no risk and low scores correspond to very high risk or the opposite depending on the sign condition (Dyke, 2017:94). The more discriminative the scoring system is, the better are the customers ranked from high to low risk. In the calibration phase, risk measures are assigned to each credit pools (Miller, 2015:45). The quality of the credit scores risk ranking and calibration can be verified by analysing ex-post observed credit losses per score (Fredrick and Nyasaka, 2017:56). Credit scores are often segmented into homogeneous pools. In the past, credit scoring focused on measuring the risk that a customer would not fulfil his/her financial obligations and run into payment arrears which has evolved recently to exposure and also loss (Nafula, 2015:94). Initially, the credit approval decision was made utilising a simply judgmental approach by just investigating the application structure subtle elements of the candidate and usually cantered on the estimations of the 5Cs which are character, capital, capacity, collateral and conditions of a client (McColgan, 2014:231).

Character

Character which measures the borrower's personal character and integrity including virtues like reputation and honesty and their willingness to comply with the credit terms and conditions;

Capital

Capital which measures the difference between the borrower's assets which may include car, house and liabilities for example renting expenses and whether they exist;

Collateral

Collateral evaluation of the assets provided in case payment problems occur for example house hold assets, house, car;

Capacity

Capacity which measures the borrower's ability to pay based on for example job status, source of income and finally;

Conditions

Conditions where the members' borrowing circumstances are evaluated for example market conditions, competitive pressure, and seasonal character (Nafula, 2015:54).

2.6 Credit Risk Management Strategies

According to Muritala and Taiwo (2013:94), the credit risk management strategies are measures employed by banks to avoid or minimize the adverse effect of credit risk. A sound credit risk management framework is crucial for banks so as to enhance profitability guarantee survival. Li and Fofack (2015:132) cites that the key principles in credit risk management process are sequenced as follows; establishment of a clear structure, allocation of responsibility, processes have to be prioritised and disciplined, responsibilities should be clearly communicated, and accountability assigned.

According to Muritala and Fofack (2015:133), the strategies for hedging credit risk include but not limited to these;

2.6.1 Credit Derivatives

This provides banks with an approach which does not require them to adjust their loan portfolio. Credit derivatives provide banks with a new source of fee income and offer banks the opportunity to reduce their regulatory capital. The most common type of credit derivative is credit default swap whereby a seller agrees to shift the credit risk of a loan to the protection buyer. Miller (2015;15) adds that credit derivatives encourage banks to lend more than they

would, at lower rates, to riskier borrowers. Recent innovations in credit derivatives markets have improved lenders' abilities to transfer credit risk to other institutions while maintaining relationship with borrowers. .

2.6.2 Credit Securitisation

It is the transfer of credit risk to a factor or insurance firm and this relieves the bank from monitoring the borrower and fear of the hazardous effect of classified assets. This approach insures the lending activity of banks. The growing popularity of credit risk securitization can be put down to the fact that banks typically use the instrument of securitization to diversify concentrated credit risk exposures and to explore an alternative source of funding by realising regulatory arbitrage and liquidity improvements when selling securitisation transactions (Shu, 2014:143). A cash collateralised loan obligation is a form of securitization in which assets (bank loans) are removed from a bank's balance sheet and packaged into marketable securities that are sold on to investors via a special purpose vehicle (McColgan, 2014:132).

2.6.3 Compliance to Basel Accord

The Basel Accords are international principles and regulations guiding the operations of banks to ensure soundness and stability. The Accord was introduced in 1988 in Switzerland. Compliance with the Accord means being able to identify, generate, track and report on risk-related data in an integrated manner, with full auditability and transparency and creates the opportunity to improve the risk management processes of banks. The New Basel Capital Accord places explicitly the onus on banks to adopt sound internal credit risk management practices to assess their capital adequacy requirements (Chen and Pan, 2012:93).

2.6.4 Adoption of a sound internal lending policy

The lending policy guides banks in disbursing loans to customers. Strict adherence to the lending policy is by far the cheapest and easiest method of credit risk management. The lending policy should be in line with the overall bank strategy and the factors considered in designing a lending policy should include the existing credit policy, industry norms, general economic conditions of the country and the prevailing economic climate (Chen and Pan, 2012:33).

2.6.5 Credit Bureau

As an institution which compiles information and sells this information to banks as regards the lending profile of a borrower, the bureau awards credit score called statistical odd to the borrower which makes it easy for banks to make instantaneous lending decision. Example of a credit bureau is the Financial Credit Bureau (FCB) in Zimbabwe.

After the inception of the multicurrency regime, FBC Bank employed various credit risk management practices and strategies in order to contain credit risk. These include credit limits, credit insurance, collateral, adoption of sound internal lending policy and clearing applicants with the Financial Credit Bureau.

2.7 Mechanisms of Reducing Credit Risk

The occurrence of bad debts can be reduced if lenders pay attention to monitoring and control (Ross and Hudgins, 2015:13). In monitoring and control Rouse identified internal records, visits and interviews, audited accounts and management accounts as some of the ways that help in the monitoring and control process (Shu, 2014:12). This can minimise the occurrence of non-performing loans through ensuring the utilisation of the loan for the agreed purpose, identifying early warning signals of any problem relating to the operations of the customer's business that are likely to affect the performance of the facility; ensuring compliance with the credit terms and conditions and enabling the lender discusses the prospects and problems of the borrower's business (Fredrik and Nyasaka, 2017:245). Basically, there are three types of loan follow up systems and these are: physical follow up, financial follow up and legal follow up (Chambers and Butler, 2016:134). The physical follow-up helps to ensure existence and operation of the business, status of collateral properties, correctness of declared financial data, quality of goods, conformity of financial data with other records, availability of raw materials, labour situation, marketing difficulties observed, undue turnover of key operating personnel and change in management set up among others (McManus, 2016:17). The financial follow up is required to verify whether the assumptions on which lending decisions was taken continues to hold good both in regard to borrowers' operation and environment and whether the end use is according to the purpose for which the loan was given (Leply, 2017:431). The purpose of legal follow up is to ensure that the legal recourse available to the Bank is kept alive at all times. It consists of obtaining proper documentation through registration and follows up of insurances to keep them alive (Miller, 2015:95). Specific issues pertaining to legal follow up

include ascertaining whether contracts are properly executed by appropriate persons and documents are complete in all aspects, obtaining revival letters in time (this are letters to renew registration of security contracts that have passed the statutory period as laid down by the law), ensuring loan/mortgage contracts are updated timely and examining the regulatory directives, laws, third party claims among others (McColgan, 2014:15). According to Duaka (2015:74), effective management of credit risk is a critical component of risk management and indispensable for the long-term success of any commercial bank. A variety of approaches can be adopted by a financial institution to mitigate its credit risk. These include, among others:

Risk-based pricing

This is a tool which firms use to calculate the interest rates on loans given based on the probability of default, or the risk on the loan.

Covenants

Firms incorporate very strict covenants in their deal contracts. Such covenants generally require the debtor to meet certain conditions such as maintaining a required capital level, or prohibit him from carrying out certain actions.

Credit insurance

Credit insurance covers any losses that may result from unpaid receivables. It also covers bankruptcies as well as late payments.

Credit derivatives

These derivative instruments provide protection against the credit risk of the underlying asset of the derivative.

Collaterals

The counterparty bearing the credit risk in a deal asks the opposite counterparty for collateral, which the party at risk holds till the deal is completed.

Engaging in credit guarantee scheme (CGS)

Credit risk mitigation can either take the form of funded or unfunded protection. Guarantees are one form of unfunded credit risk mitigation. Because the protection is unfunded it relies exclusively on the creditworthiness of the guarantor. Consequently, the most creditworthy guarantees are likely to be those provided by government.

2.8 Objective 1: Main determinants/drivers of Non-Performing Loans

Literature has shown that there are many researches that were done on the subject of non-performing loans. Several different approaches have been used to undertake research in this area. Messai and Jouini (2013) in their research in Italy, Greece and Spain categorized causes of non-performing loans into macroeconomic factors and bank specific factors. On the other hand, a research done by Waweru and Kalani (2009) in Kenya categorized the causes of non-performing loans in three sections which are general factors, bank specific factors and individual client factors. Sinkey and Greenawalt (1991) cited in Waweru and Kalani (2009) indicates that nonperforming loans mainly result from external environment which is opposed to findings of other researchers. Farhan et al, (2012) conducted a research in Pakistan which concentrated on economic factors that cause non-performing loans although they acknowledged other factors. They concluded that the major causes of nonperforming loans are economic hardships. Farhan et al, (2012) research conclusions really reflect the situations in Zimbabwe where there are economic challenges are contributing to financial sector problems. They indicated that company failures are major causes of non-performing loans in an economy with subdued activities. Greenridge and Grosvenor (2010) cited in Guy (2010) found out that low GDP, High interest rate and inflation are some of the factors that cause non-performing loans. Considering all these variation from previous studies, this study selected major causes cited in literature and tested them in the Zimbabwe financial services sector. The causes of non-performing loans are by no means exhaustive, but they provide a useful framework for analysis (Guy, 2011). Literature on major causes of nonperforming loans shall be reviewed below.

2.8.1 Gross Domestic Product (GDP) Levels

High unemployment, low GDP and high interest rate are the major determinants of non-performing loans as justified by life-cycle consumption models (Louzis, Vouldis and Metaxas, 2010). In their empirical studies on NPLs Richard (2011); Luga and Ruxandara (2013); Messai and Jouini (2013); Farhan et al, (2012); Vatansever and Hepşen (2013); Waweru and Kalani (2009); Shingjergji (2013); Chikoko et al, (2012); Karunakar, Vasuki and Saravanan (2008) cited macroeconomic factors as major causes of NPLs in different areas they conducted their researches. Some factors have a positive relationship while others have a negative relationship to NPLs. For example, Salas and Saurina (2002) cited in Louzis, Vouldis and Metaxas (2010) indicated that there is a negative relationship between GDP growth and the nonperforming

loans ratio. Sinkey and Greenawalt (1991) cited in Waweru and Kalani (2009) affirms that external economic environment is the major source of nonperforming loans especially economic depressions. Klein (2013) conducted a research in the Euro Zone on non-performing loans and he found out that the interest rates, exchange rates, inflation and GDP affect the asset quality of the bank. Klein (2013) also posits that there is an inverse relationship between non-performing loans and economic slowdown. The GDP level for Zimbabwe has fallen as evidenced by macroeconomic problems facing the nation. Zimbabwe is facing economic challenges and the current account deficit is widening and the nation's foreign currency reserves are being depleted. Most goods are being imported into the country resulting in closure of local firms producing similar items to those being imported at a lower cost. Closure of firms would mean increased unemployment and reduced loan repayment capabilities of borrowers.

2.8.2 Insider Lending and Moral Hazard

Shingjergji (2013) and Waweru and Kalani (2009) indicated that NPLs are caused by moral hazard and imprudent lending practices by bank employees and owners. Bank management might engage in insider lending and charging exorbitant interest to risky clientele in order to maximize return which promotes moral hazard. Brownridge (1998) cited in Waweru and Kalani (2009) stated that insider loans are considered to be major contributors to failed banks in Kenya. He went on indicating that most insider loans breached exposure limits and they were invested to speculative activities. Waweru and Kalani (2009) cited political pressure, concentration of ownership and undercapitalization to be major causes of insider lending. Richard (2011), USAID (2011) and Chikoko et al, (2012) confirmed the contribution of corruption and insider loans to the growth of NPLs. According to the Reserve Bank of Zimbabwe Monetary Policy Statement (2014) non-performing loans are increased by insider loans. This is a confirmation of researches done in other countries. Waweru and Kalani (2009) indicated that in Kenya, moral hazard and insider loans perpetuate imprudent lending behaviour in the financial services sector. Some banks with weak internal control suffer from moral hazard (Ning-ning 2009). Borrowers usually engage in more risky activities than what was agreed with the bank.

2.8.3 High Rate of Unemployment

Shingjergji (2013), Messai and Jouini (2013), Farlan *et al.*, (2012) and Vatansever and Hepşen (2013) agreed that high rate of unemployment in any country has a positive relationship with

increased NPLs. Louzis, Vouldis and Metaxas (2010) added that unemployment affects the borrowers' source of income which weaken the ability to repay borrowed funds. Salas and Suarina (2002), Rajan and Dhal (2003), Fofack (2005) and Jimenez and Saurina (2005) cited in Klein (2013) concurs with Louzis, Vouldis and Metaxas (2010) on the effect of unemployment on the source of income but they added that it is worsened by currency depression. There is a strong positive relationship between NPLs and high rate of unemployment (Lazea & Luga, 2012).

2.8.4 Poor Management of Loan Portfolio

Luga and Ruxandara (2013), Messai and Jouini (2013), Richard (2011), USAID (2011), and Karunakar, Vasuki and Saravanan (2008) cited poor loan portfolio management as another important cause of non-performing loans. Waweru and Kalani (2009) assert that NPLs are caused by poor credit risk management practices. Management inefficiencies are positively related with future rise in NPLs (Messai and Jouini, 2013). Well-structured credit philosophy and credit culture will reduce management inefficiencies hence reduce NPLs. This is a controllable cause of non-performing loans hence Fernández, Jorge and Saurina (2000) cited in Waweru and Kalani (2009) indicated that growth of bank lending and prudential guidelines are always on the agenda of bank supervisors in Spain and many other countries. Waweru and Kalani (2009) indicated that it is difficult for banks to follow prescribed guidelines in a competitive environment where lending institutions compete for market share and profits. However, failure to follow prescribed guidelines in lending will increase NPLs which can lead to bank failure. In this case it is mandatory to follow prudent lending practises. Some banks have unsound credit assessment procedures and they insist on credit quantity at the expense of quality loan book. There are also issues of poor risk consciousness among lenders which increases NPLs (Ning-ning, 2009). Herring and Wachter (1999) cited in Guy (2011) indicated some of the causes of the rise in non-performing loans has to do with lending institutions which concentrate in one certain area of the economy especially agriculture. This is part of poor management since diversification reduces credit risk.

2.8.5 High Interest Rate

Interest rate is the cost of borrowed money paid by borrowers (Badar & Javid, 2013). In this study, minimum lending rate set by Commercial Banks in liaison with the Central Bank shall be used as a proxy for interest charged to clients. Messai and Jouini (2013); Farlan et al, (2012);

Chikoko et al, (2012) and Vatansever and Hepşen (2013) assert that high interest rate charged on borrowers increase the level of non- performing loans. On the same note Louzis, Vouldis and Metaxas (2010) indicated that floating interest rate raised major problem to borrowers thereby increasing the level of non-performing loans. Waweru and Kalani (2009) affirm that high interest rate charged on borrowers will force them to indulge in risky activities and it is usually accepted by risk borrowers. Badar and Javid (2013) confirm that there is a positive relationship between interest rate charged to clients and non-performing loans.

2.8.6 Diversion of Funds

Richard (2011) pointed out that non-performing loans are caused by individuals who divert funds from the intended purpose with the aim to get more return. Richard (2011) went on indicating that there is a positive relationship between diversion of funds and the level of non-performing loans. In most cases they divert funds to more risky investments which may fail creating non-performing loans. Failure by lending organizations to monitor borrowers' activities will increase the chances of funds diversion. Borrowers would use funds for those investments which may generate quick return but involve higher risk. Banks should institute high penalty fees to borrowers who divert funds. This could probably reduce the occurrence of such cases.

2.8.7 Experience and Knowledge of Borrowers

Some entrepreneurs borrow without well planned business and the necessary expertise for the project being undertaken (Ning-ning, 2009). Clients who borrow to undertake projects in areas where they do not have sufficient knowledge and experience have high chances of failure to repay borrowed funds. This exposes the bank to default risk creating NPLs. Adequate lending assessment is the best way to screen clients with little or no knowledge in the areas they intend to invest thereby maintaining a quality loan book.

2.9 Objective 2: Effect of NPLs on Bank Performance

The financial performance of banks is contributed greatly by the loan interests that banks make. However, the financial performance of banks is affected if these loans go bad. In regard to banking regulations, banks make adequate provisions and charges for bad debts which impact

negatively on their performance. According to Shu (2002) non-performing loans also have a negative effect on a countries GDP growth, inflation rate and increase in property prices.

2.9.1 Negative Effects on Banks Profitability

Non Preforming loans have a direct effect on the profitability of banks according to a study of the financial statement of banks. To improve the economic status of the bank it is therefore necessary to eradicate the non-performing loans (Altman & Sauders, 2011). The economic efficiency and growth of the banks can be impaired if non-performing loans remain existing and are continuously rolled over locking the resources of the banks in unprofitable sectors (Barr, Seiford & Siems, 2009). The study by Muritala and Taiwo (2013) investigated the impact of credit risk on the profitability of Nigerian banks. From the findings it was concluded that banks' profitability is inversely influenced by the levels of loans and advances, and non-performing loans thereby exposing them to great risk of illiquidity and distress. It is also important to note that there exists a two-way, dual directional relationship between credit risk management and non-performing loans. Subsequently, credit risk management (CRM) has an impact on the profitability of banks and especially a bank like Kenya Commercial Bank. The default rate, cost per loan asset and capital adequacy ratio influence return on asset (ROA) as a measure of the bank's (KCB) profitability. Kithinje (2010) measured the effect of CRM on banks' profitability through the use of regression model. The study uses records on the total credit, level of non-performing loans, and profits for the period of five years. It reveals that the accumulated profits of banks are not influenced by the quantity of credit and non-performing loans. Hence, Kithinje (2010) proposed that other variables other than credit and non-performing loans have greater effects on the profitability of banks. In a study conducted on 22 Nigerian Banks by Kurawa and Garba (2014), the results confirmed that the independent variables attributed to CRM indicators had individual and uniting effect on the profitability (measured by an index of ROA) of the Nigerian banks under study. Two independent variables, DR ratio and CLA ratio, indicated a clear and strong positive relationship with the independent variable ROA. These two independent variables were influenced by loan losses, operating expenses, and the proportion of non- performing loans which were the key determinants of asset quality of a bank. This is consistent with the findings of Al-Khouri, (2011) who also confirmed that CRM indicators affect profitability of banks. These findings have contradicted the findings of Kithinje (2010) who revealed that the banks' profitability is not influenced by CRM components. Banks have been reluctant to provide credit due to NPLs. In high NPL

conditions, banks carry out internal consolidation to improve asset quality (Altman & Sauders, 2011). Due to this conditions banks have to raise provisions for loan loss that decreases bank's revenue reducing funds for lending. The corporate sector is then impaired due to the cutback on loans making them unable to expand their working capital blocking their chances of growing and continuing with their normal operation. This then triggers the second round of business failure if banks are not able to finance firm's working capital and investments questioning the quality of bank loans that can lead to banking or financial failure (Berger & De Young, 2007). Efforts to deal with non-performing loans have been put in place with banks shortening the period when loans become past due. This puts loans on borrowers' schedule sooner requiring them to start paying immediately ensuring loan losses do not worsen since lenders are at a risk of being forced to take full write-down if borrowers go bankrupt. This is done to prevent lenders from being caught off guard (Berger & De Young, 2007). Muritala and Taiwo (2013) explains that bank management need to be cautious in setting up a credit policy that will not negatively affect profitability and also to know how credit policy (and strategy) affects the operations of their banks to ensure judicious utilization of deposits and maximization of profit. In their study, Muritala and Taiwo further conclude that improper credit risk management reduces the bank's profitability, affects the quality of its assets and increase loan losses and non-performing loans which may eventually lead to financial distress. Their study advises that Central Banks should regularly assess the lending attitudes of financial institutions and they could probably do this by assessing the degree of credit crunch by isolating the impact of supply side of loans from the demand side taking into account the opinion of the firms' about banks' lending attitude.

In the relationship between borrower and lender, unexpected misfortunes sometimes occurs leading to default in schedule repayments (Nafula, 2015:132). This default on a persistent basis becomes bad debt to financial institution (Maluni, 2017:45). These bad debts are referred to as nonperforming loans. In the commercial banks' balance sheet, these loans are recorded as assets (Miller, 2015:9). Non-performing loans are the challenge experienced by the lenders of loans. This occurs when the clients are not able to service the loans as per the agreed terms. Many a times, this is experienced when poor credit rating is done to gauge the credit worthiness of the clients (Stiglitz and Weiss, 2015:23). In addition, some clients may not reveal their wanting capacities that may dilute their credit worthiness (Dyke, 2017:92). There has been hue and cry over this crisis all over the world and in certain cases the long and unbarring litigation process has been sort for redress. Such a case was highlighted in the New York Times Newspaper of May 20th, 2010, in the Business column where it was reported that a number of

significant improper and imprudent practices related to loan originations, operations, accounting and financial reporting processes (Maluni, 2017:145). Loans when not being serviced or not performing, the quality of assets of the bank becomes poor (Saunders, 2016:32). A mismatch in management of major balance sheet items can cause a bank to close down. Loans when they turn out to become bad debts reduce asset base of a bank and affects bank's ability to lend further (Miller, 2015:19).

According to McColgan (2014:143), the financial performance of banks is contributed greatly by the loan interests that banks make. However, the financial performance of banks is affected if these loans go bad (Nafula, 2015:145). In regard to banking regulations, banks make adequate provisions and charges for bad debts which impact negatively on their performance. According to Wu and Hang (2007:124), non-performing loans also have a negative effect on a countries GDP growth, inflation rate and increase in property prices. FBC Bank is feeling the impact of its large portion of non-performing loans. Its asset quality has deteriorated, and its profitability has greatly declined due to large provisions of bad loans hence incapacitating its lending ability thereby depriving companies with viable projects the much needed capital (Smith, 2013:91).

According to McColgan (2014:15), the inability of owners, customers and other stakeholders of a financial institution to meet cash obligations in a timely and a cost-efficient manner leads to liquidity issues. These issues occur when there is a sudden surge liability withdrawals resulting in a bank to liquidate assets to meet the demand (Bessis, 2015:15). This emerges when administration is unable to adequately plan for changes in financing sources and money needs. This makes bankers and other financial institutions concerned about the risk of not having enough cash to meet payment in a timely manner (Rose and Hudgins 2015:14).

Depositors and foreign investors may lose confidence on banks when they are faced with huge non-performing loans (Shu, 2014:13). NPLs reduce total loan portfolio of banks which affects interest earnings on assets constituting huge costs on banks (Rose and Hudgins, 2015:14). Overseeing liquidity requires keeping up adequate money reserves to meet customer withdrawals, dispense loans and fund unanticipated money deficiencies while also devoting whatever number assets as could reasonably be expected to augment profit (Hill and Moore, 2015:132).

2.9.2 Liquidity Issues

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2.9.3 Negative Effect on Capital Mobilization

According to the Central Bank of Kenya, banks are expected to maintain adequate capital to meet their financial obligations, operate profitably and promote a sound financial system (CBK 2011). In any business, capital in any business serves as a mean by which losses may be absorbed (Ogundina, 2009). It provides any business with security to withstand losses not covered by current earnings pattern. Regrettably most banks are undercapitalized which could be attributed to the fact that many of the banks were established with little capital in place. This situation has further worsened due to huge amount of non-performing loans which has taking up the capital base of most of the banks. Inability to recover the non-performing loans, effect of inflation and low level of initial capital has also worsened the situation (Ogubunka, 2007). These factors have led to erosion of the capital base of many banks. Non-Preforming loans can affect the capital mobilization since investors will not invest in a bank with huge non-performing loans (Ogundina, 2009).

Ogubunka (2007) indicates that when a bank is undercapitalized becomes difficult for it to continue with their operations due to fewer funds. If it does continue without increased capital distress ensues and many banks are affected by inadequacy of capital. They are not able to sustain their operation as a result of overtrading and due to losses arising from their functions

leading to job losses of their employees. According to Direct investment and domestic capital mobilization are some of the ways banks can raise funds to meet their capital requirement.

2.9.4 Credit Risk Management

Credit risk management is defined as identification, measurement, monitoring and control of risk arising from the possibility of default in loan repayments (Coyle, 2010). Pagano and Jappelli (2013) shows that information sharing reduces adverse selection by improving bank's information on credit applicants. In their model, each bank has private information about local credit applicants, but no information about non-local applicants. If banks exchange information about their client's credit worthiness, they can assess also the quality of non-local credit seekers, and lend to them as safely as they do with local clients. The impact of information sharing on aggregate lending in this model is ambiguous. When banks exchange information about borrowers' types, the increase in lending to safe borrowers may fail to compensate for an eventual reduction in lending to risky types. Information sharing can also create incentives for borrowers to perform in line with banks' interests. Klein (2012) shows that information sharing can motivate borrowers to repay loans, when the legal environment makes it difficult for banks to enforce credit contracts. In this model borrowers repay their loans because they know that defaulters will be blacklisted, reducing external finance in future. Vercammen (2008) and Padilla & Pagano (2010) show that if banks exchange information on defaults, borrowers are motivated to exert more effort in their projects. In both models, default is a signal of bad quality for outside banks and carries the penalty of higher interest rates, or no future access to credit. Loan defaults and nonperforming loans need to be reduced (Central Bank Supervision Annual Report, 2006; Sandstorm, 2009).

2.9.5 Loan Characteristics

Derban (2008) in their study on performing loans recovery in Ghana indicates that failure to honour financial obligation when it falls due by borrowers can be categorised into three sections: the intrinsic features of borrowers and their businesses operations. Secondly, the characteristics of the lending institution and the suitability of the loan product advanced to the borrower that makes it unlikely for repayment to occur. Systematic risk forms the third category caused by macroeconomic factors that include economic, political and business operations (Derban, 2008). In their study Roslan (2007) on poor loan repayments by small businesses in Malaysia, the study established that monitoring and early detection of problems that may arise

due to the rate of portfolio default can be arrested through close and informal relationships between MFIs and borrowers. In addition, cooperation and coordination among various agencies that provide additional support to borrowers may help them succeed in their business. Vigenina and Kritikos (2008) on a related study indicate that individual lending has three elements namely the demand for non-conventional collateral, a screening procedure which combines new with traditional elements and dynamic incentives in combination with termination threat in case of default, which ensure high repayment rates up to 100 percent. In a research by Saloner (2007) on poor loans repayment in Africa indicates that by increasing the loan size for a borrower, it provides an incentive for repayment of his loans on time and in full so that he continues borrowing. If an individual is able to repay progressively larger loans, it can be inferred that he is growing his business and increasing his income. Quoting Cerven and Ghazanfar, 2009; Godquin 2004, Saloner (2007) acknowledge the fact that the larger the loan, the more financially beneficial the loan is to the institution. Increase in loan size is, therefore, useful to both the borrower and the lending institution. Unfortunately, because the institution is able to be profitable by lending larger sums of money, this can cause default as borrower grapple with the challenge to meet their financial obligation. Through support, motivation and leadership from the group, there is a strong incentive for each member to honour his financial obligation due to fear of losing on one's personal reputation within the group. In most cases members of a group find their origin from the same locality or village, this ensures that loan servicing is honoured.

In addition, Islam (2009) in his research, records that group lending encourages peer monitoring of which in the long run provides the institutions with the ability to be more flexible with their credit financing. This ensures that lower rates than other lenders are charged or similar rates with an assurance of higher rates of repayment with lower risks. Although most of the research on joint lending finds positive effects, an empirical study of microfinance institutions and borrowers in Thailand summed that group lending joint lending does not have a substantial effect, either positive or negative, on the loan settlement (Kaboski & Townsend, 2008).

A sound and profitable banking sector is able to withstand negative shocks and contribute to the stability of the financial system (Bennardo, Pagano & Piccolo, 2007). Moreover, commercial banks play a significant role in the economic growth of countries. Through their intermediation function banks play a vital role in the efficient allocation of resources of countries by mobilizing resources for productive activities. They transfer funds from those who

don't have productive use of it to those with productive venture. In addition to resource allocation good bank performance rewards the shareholders with sufficient return for their investment. When there is return there shall be an investment which, in turn, brings about economic growth. On the other hand, poor banking performance has a negative repercussion on the economic growth and development. Poor performance can lead to runs, failures and crises. Banking crisis could entail financial crisis which in turn brings the economic meltdown as happened in USA in 2007 (Marshall, 2009) That is why governments regulate the banking sector through their central banks to foster a sound and healthy banking system which avoid banking crisis and protect the depositors and the economy (Shekhar & Shekhar, 2007). A more organized study of bank performance started in the late 1980's (Olweny & Shipho, 2011) with the application of Market Power (MP) and Efficiency Structure (ES) theories (Athanasoglou, 2008.) The MP theory states that increased external market forces results into profit. Moreover, the hypothesis suggest that only firms with large market share and well differentiated portfolio (product) can win their competitors and earn monopolistic profit.

2.10 Objective 3: Relationship between Credit Risk Management and NPLs

Brownridge (2016:194) cites that studies done in other countries show that non-performing loans are the major causes of most bank failures. Abedi (2012:723) analysed the Malaysian financial system and reported a significant relationship between credit risk and financial crises. He concluded that before the onset of the 1997 Asian financial crisis, credit risk had already started to build up and became more serious as non-performing loans increased. This therefore shows that non-performing loans is a function credit risk management. If credit risk is managed well, the level of non-performing loans will also remain under control. Li and Fofack (2005:84) also found this relationship between credit risk and non-performing loans to be significant. There is evidence that before the collapse of the sub-prime mortgage market in August 2007, the level of non -performing loans in the US started to increase substantially in early 2006 in all sectors (Greenidge and Grosvenor, 2010:176).

Duaka (2015:83), from most of the studies reviewed, it has been established that there is a negative relationship between credit risk management practices and the level of non-performing loans in banks. Bank management were noted to be doing subjective decision making, extending credit to business enterprises they own or with which they are affiliated, to personal friends, to persons with a reputation for non-financial acumen or to meet a personal

agenda, such as cultivating special relationship with celebrities or well-connected individuals (Saunders, 2016:93). The use of tested lending techniques and especially quantitative ones which filter out subjectivity may provide a solution to this (Griffith and Persuad, 2012:23).

To guide them in the granting of credit, banks have credit policies that guide them in the process. The credit control policy sets the guidelines to be followed as to who should access credit, when and why one should obtain the credit including repayment arrangements and necessary collaterals to minimise risk of default (Griffith and Persuad, 2012:24). The method of assessment and evaluation of risk of each prospective applicant are part of a credit control policy (Payle, 1997:28). The use credit control policy minimises costs and losses from bad debts through due diligence but might reduce profitability by reducing revenue earning from loans (Bonin and Huang, 2001:34).

Studies done by Greuning and Bratanovic (1999:9) concluded that the lending policy should be in line with the bank's overall strategy and in designing a lending policy the bank should consider factors such as the existing credit policy, industry norms, general economic condition and the prevailing economic climate.

United States of America - In a survey of the best practices in credit risk management in USA done by Lepus (2004:74), it was observed that sixty three (63%) per cent out of the eight banks interviewed employed Monte Carlo methods of credit risk measurement while sixty three (63%) per cent, fifty (50%) and thirteen (13) per cent employed VaR, and expected and unexpected models of measuring credit risk. Credit risk still remains the single major cause of bank failures despite innovations in the financial services sector the reason being that more than 80% of a bank's balance sheet generally relates to this aspect of risk management (McManus, 2016:24). It is important therefore to perform a comprehensive evaluation of a bank's capacity to assess, administer, supervise, control, enforce and recover loans, advances, guarantees, and other credit instruments, failure of which may result in potentially dire effects.

Pakistan - Haneef (2012:73) examined the impact of risk management on non-performing loans and profitability of banking sector of Pakistan. The study used sampling technique where it selected five commercial banks for inclusion in the study. The result of this study revealed that there was no proper mechanism for risk management in banking sector of Pakistan. Study also concluded that non-performing loans were increasing due to lack of risk management which threatened the profitability of banks.

Spain - Jimenez and Saurina (2005:74) examine the Spanish banking sector from 1984 to 2003; they provide evidence that non-performing loans are determined by GDP growth, high real interest rates and lenient credit terms. This study attributes the latter to disaster myopia, herd behaviour and agency problems that may entice bank managers to lend excessively during boom periods. Meanwhile, Rajiv and Dhal (2003:83) utilise panel regression analysis to report that favourable macroeconomic conditions and financial factors such as maturity, cost and terms of credit, banks size, and credit orientation impact significantly on the non-performing loans of commercial banks in India.

Liberia - In Liberia, Oretha (2012) examined the relationship between credit risk management practices and financial performance of commercial banks. Quantitative research design was employed under the quantitative research design survey method and data was collected by cross sectional survey method. The conclusion of this study shows a positive relationship between the credit risk management practices and financial performance. Commercial banks during the pre-liberalisation period were not effective in managing their credit risk in contrast to the post-liberalisation period. Variations in the credit policies by seven of the nine commercial banks reflected monetary and fiscal policy actions, where expansionary fiscal policy partly increased inflationary pressure on the monetary authority. During the post-liberalisation period, most banks used the services of consultants to formulate their credit risk management policies which reduced the risk posed by defaulting on loans.

Kenya - In a study of the response of National Bank of Kenya Ltd to challenges of non-performing loans, Mathra (2007:94) identified the following factors to have led to high levels of non-performing loans in the bank. The factors are lack of adequate credit policy guidelines, poor credit risk management practices, use of qualitative methods of loan assessment and poor monitoring and evaluation systems. In conclusion the study indicates that the absence of regularly updated credit policy and inadequate monitoring of loans led to rising portfolio of non-performing loans and the failure by the banks to notice the increasing default rate of the borrowers. The study further concludes that the reliance of the bank on qualitative credit analysis methods that entails such factors as character of the borrower, reputation of the borrowed and the historical financial capability of the borrower as opposed to the use of quantitative techniques that emphasized on the borrowers projected cash flows and analysis of audited financial books of accounts have contributed immensely to the non-performing loan portfolio.

Obiero (2009:156) conducted a study on the banking sector regulatory framework in Kenya and found that out of the 39 banks which failed in the period 1984 and 2002, 37.8 per cent collapsed mainly due to poor quality on lending practices. The methodology used was factor analysis model. This model enabled the researcher to determine the variables related to the bank failures over the period under study. Mutungamili (2016:143). Obiero (2009:12) also carried out a study of national banks that failed in the mid-1980s in the USA and found out that the consistent element in the failures was inadequacy of bank's management systems for controlling loan quality. These findings are in agreement with assertions of scholars such as Abedi (2012:84) who found that character is the most important criteria in risk assessment of commercial banks and other financial institutions in America, followed by capacity to repay the loan and the reasonableness of the cash from the intended investment.

Nigeria - Owojori (2011:13) highlighted that available statistics from the liquidated Nigerian banks clearly showed that inability to collect loans and advances extended to customers and directors or companies related to directors or managers was a major contributor to the distress of the liquidated banks. At the height of the distress in 1995, when 60 out of the 115 operating banks were distressed, the ratio of the distressed bank's non-performing loans and leases to their total loans and leases was 67% (Owojori 2011:84). The ratio deteriorated to 79% in 1996; to 82% in 1997; and by December 2002, the licenses of 35 of the distressed banks had been revoked. In 2003, only one bank (Peak Merchant Bank) was closed. No bank was closed in the year 2004.

Zimbabwe - Nyamutowa and Masunda (2013:45) examined credit risk management practices in Zimbabwe commercial banks in the wake of the collapse of many banking institutions in the country. The objectives of this study were to analyse credit risk management practices undertaken by Commercial Banks in Zimbabwe and to determine and assess their effectiveness. The research focused on 6 commercial banks in Zimbabwe as the sampling frame. The research concluded that the three most important business risks are operational, credit and market risk. Loans, overdraft facilities and interbank transactions were identified as major sources of credit risk in Zimbabwe with loans and overdrafts constituting 80% of the credit banking risk.

It was also established that even though credit risk is the major cause of bank failures, agribusiness divisions of commercial banks in Zimbabwe that account for 30% of loan portfolio, were not fully using modern credit risk frameworks or models and were solely relying on traditional credit management techniques placing much weight and emphasis on collateral.

The effect has been poor asset quality that in turn increases bank exposure. Regional and international commercial banks operating in Zimbabwe were found to be having better credit risk practices than indigenous commercial banks (Nyamutowa et al, 2013:34).

2.11 Objective 4: The effect of technology and innovation on Credit Risk Management

2.11.1 Loan Pricing

When it comes to credit risk management, loan pricing is crucial (Fatemi & Fooladi, 2006). Banks manage risk by charging a risk premium that is proportional to the client's risk profile. This is intended to ensure that the bank recovers at least a portion of the loan before the counterparty defaults. Raghavan (2003) suggested that in order to develop a risk profile for usage on counterparties, historical data on default losses must be compiled, which is where ICTs come in. Building historical loan data requires a lot of data processing and identifying the history that is most similar to the current situation can be difficult at times. With only one click of a mouse, ICTs can make this procedure more simpler and much faster to handle. As a result, ICTs aid in the processing of all acquired data, and management information systems may subsequently be utilized to generate performance reports and forecast future performance (Laudon & Laudon, 2019).

Sen and Choudhary (2011) found that information communication technologies (ICTs) significantly lower the costs of gathering, storing, processing, and distributing data. It also aided farmers in lowering the costs of loans that were incorrectly priced. These expenses include underestimating risk profiles, which can result in low-risk premiums being charged or reworks due to human mistake. Pricing will be done accurately the first time, without errors, thanks to information systems. This made it much easier for small-scale farmers to manage credit risk.

2.11.2 Credit Rationing and Limits

Credit rationing, according to Crowston et al., (2011), occurs when a lender refuses to grant a loan to a borrower or limits the amount of credit available, regardless of what the borrower is willing to pay or how much the borrower desires. This is generally done by banks to prevent concentration risk or when the market is experiencing liquidity issues. To decrease credit exposure, banks typically impose credit limitations (Jorion, 2013), which include customer

restrictions, industry limits, trader limits, rate limits, and amount limits. Because there are so many restrictions to monitor and govern, certain transactions or dangers may go undiscovered because some rules or limits fail to detect broken limits. Directors of a corporation, for example, may borrow cash as individuals and then borrow again from the same bank using the company's name; hence, the limitations imposed may fail to identify this. Expert systems, case-based reasoning, genetic algorithms, neural networks, fuzzy logic, and intelligent agents are some intelligent information systems that may be used to identify this (Laudon&Laudon, 2009). As a result, ICTs may assist in synchronizing all loans and ensuring that no limitations are exceeded, as well as lowering the scope of insider lending, which can be harmful to a bank's survival.

2.11.3 Collateral and Guarantees Ratings

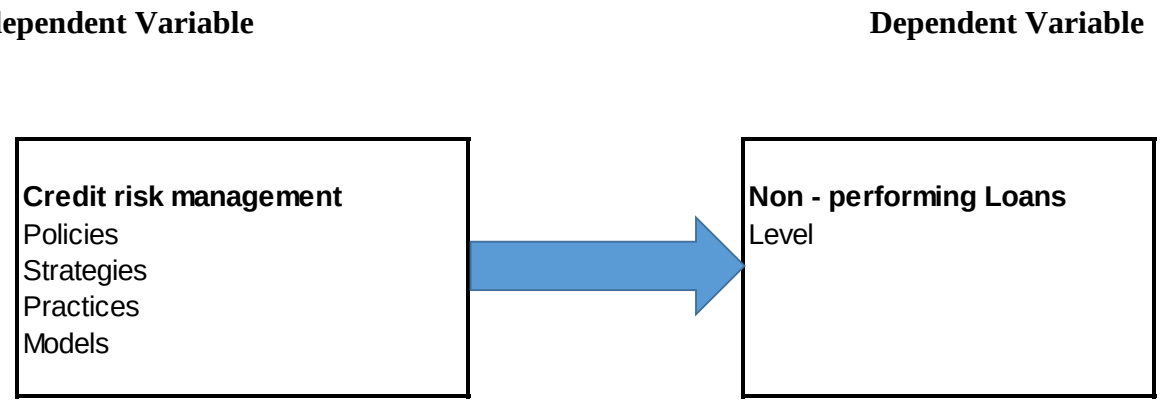
Before obtaining a loan from a bank, it is now standard practice to provide collateral or a guarantee that will serve as the bank's fall-back position in the event of client default. All guarantees must be rated under Basel II, and they can only be issued by a firm or a financial institution (Deloitte, 2021). Gono (2012) stated in the RBZ Monetary Policy Statement that there are no credit rating organizations in Zimbabwe, and those that are accessible are foreign agencies that are highly expensive, therefore local banks must rely on their own ratings. As a result, regular methods and procedures for rating consumers and assurances are required. One of the most successful methods for banks to achieve this is to invest in ICT systems that allow them to exchange loan information and guarantees with other banks. "ICT play a vital role in implementing and revising in-house credit score models and loan evaluation systems," according to Diniz, Pozzebon, Jayo, and Araujo (2018). (p.4). They were researching the function of ICT in enhancing microcredit and discovered that having a robust ICT infrastructure may be leveraged to extend the range of microfinance services available. Using ICTs to communicate credit rating information throughout the banking sector will go a long way toward ensuring that all guarantees are appropriately assessed, lowering recovery costs, and preventing defaulters from accessing loans from other banks.

2.11.4 Diversification

In order to control risks, banks can use diversification as a control mechanism (Gammoh, Voss, Fang & Xiang, 2010). This is where correlation of risk comes in, where in one portfolio loans have to be negatively correlated in order to reduce systemic risk (Zhao, 2017). Thus, the loss

of default from a certain industry or type of customers can be covered by cash flows from other negatively correlated loans and this will reduce the total loss if we combine all the loans in all the portfolios. Hence, using predefined thresholds will go a long way in reducing systemic risk and this can easily be implemented and maintained by ICTs. Whenever a loan is issued within a portfolio, the Information system should automatically calculate correlation of the new loan amongst the existing loans in the portfolio. ICT systems such as expect systems are able to repeat the same process over and over again without tiring and making mistakes (Laudon & Laudon, 2019).

2.12 The conceptual framework



Source: Researcher

Figure 2.3: Conceptual Framework

2.13 Research gap

The increase of non-performing loans in Zimbabwe has generated great interest against a background of a debilitating liquidity crunch facing the country (African Development Bank, 2012). The Reserve Bank of Zimbabwe (RBZ) Monetary Policy Statement (2014) indicated that non-performing loans increased to 15,92 % for the year ended December 31, 2013, from 4% recorded in 2009 when the country adopted the multi-currency system (RBZ, 2014). It is noteworthy to point out that nonperforming loans affect the liquidity position of the banks and can also lead to bank failure. Thus, non-performing loans present a major challenge to the banking sector and the whole economy. Managing the level of non-performing loans is very

important in that it instils confidence to the public and regulators. For a bank to manage non-performing loans, it is very crucial to know the forces behind nonperforming loans and then come up with strategies to curb them (Mabvure et al, 2012). With this background the aim of this research is to unravel the causes of non-performing loans and offer possible solutions to guarantee a safe and sound banking sector. Non-performing loan book is a sign of credit risk in the financial services sector (Alizadeh-Janvisloo and Muhammad, 2012). There is a strong link between nonperforming loans and poor credit risk management practices. The Zimbabwean banking sector is currently burdened with non-performing loans. Clients are defaulting on loan repayments due to varied reasons. Some of the reasons are specific to an individual while other reasons are economy wide. The value of nonperforming loans in Zimbabwe has increased significantly. Banking rules indicate that non-performing loans must not exceed 10% of facilities made by an institution (Biabani, Gilaninia and Mohabatkhah, 2012; African Development Bank, 2012). Reserve Bank official statistics in September 2012 indicated that the non-performing loan book was 12, 3% for the whole sector (African Development Bank, 2012). This shows that the extent of the problem loans is quite high. There are many types of loans that are being availed by financial institutions in Zimbabwe. After the adoption of the multiple currency system in Zimbabwe in 2009, banks, especially indigenous banks, faced insurmountable challenges related to recapitalisation of their lending operations (African Development Bank, 2012). This compelled most Zimbabwean banks to seek offshore funding to finance their operations. From 2009 to date, liquidity challenges have been a major factor affecting the Zimbabwean financial services sector (Mabvure et al, 2012). Liquidity challenges are affecting the lending function of banks and the ability of borrowers to repay. The country is importing almost everything from neighbouring countries such as South Africa thereby exacerbating the liquidity crunch (RBZ, 2014). Exports are not in any way matching imports thereby increasing the deficit position of the country. The continuous increase of imports is destroying local producers of the same products pushing them out of business. The unemployment rate is increasing in Zimbabwe mainly due to failing companies. This creates non-performing loans in the banking sector. Bankers Association of Zimbabwe (BAZ) is looking for a holistic debt resolution framework to address NPLs. Part of BAZ's solution to non-performing loans is a Special Purpose Vehicle (SPV). In the 2014 Monetary Policy Statement the RBZ Acting Governor Dr. Charity Dhliwayo, underscored the need to immediately take action on the issue of non-performing loans in the banking sector (RBZ, 2014). With this background this research aims to reveal the causes and possible solutions of non-performing loans which will aid management and regulatory authorities to manage them.

The Zimbabwean financial service sector comprises 16 Commercial Banks, 4 Building Societies, 2 Merchant Banks and 1 Savings Bank (RBZ, 2014). The sector also includes several micro finance institutions extending credit. These financial institutions are competing for a small clientele resulting in poor lending decisions. This has resulted in some clients being multi-borrowers and this has affected their ability to service their debts. The level of NPLs in the Zimbabwean banking sector has increased significantly. Official statistics indicate that by June 2012 NPLs were 12.3%of the total facilities availed by all banks in Zimbabwe (African Development Bank, 2012). NPLs affect bank performance and capital. The Zimbabwean Banking Act (24.20) Section 31, Subsection 2 (g) provides a guide on accounting of income from bad debts. It states that banks should not account for non-performing loans. This means that if the nonperforming loan book increases a banking institution might incur losses which will consequently affect the overall capital of the institution. Economic hardships facing a country have the potential to increase the level of NPLs. When the unemployment level is increasing, non-performing loans in the financial services sector will also increase. Social unrest and political issues in a country can also lead to an increase in non-performing loans. The financial services sector is the barometer of the economy and it operates mainly on confidence from the public. According to Farhan et al, (2012) financial institutions are very important in any economy because they enhance the flow of credit. Banks use public funds to lend and this means they must have a robust system to control credit risk in the form of non-performing loans. Barr and Siems (1994) cited in Farhan *et al.* (2012) indicated that non-performing loans can cause bank failure. Mabvure *et al.* (2012) also conducted a study in Zimbabwe and found that NPLs cause bank failures. They also cause financial insolvency and consequently the collapse of the whole economy. With all these potential threats of non-performing loans, it is important to understand the determinants of non-performing loans. Farhan *et al.* (2012) said that the 2007-2009 recessions which affect USA and other economies were partly due to high levels of non-performing loans. High level of non-performing loans is a disturbing sign to regulatory authorities in the financial services sector. The area of non-performing loans has received wide scholarly attention in Zimbabwe and many causes were cited. However, the researcher feels that in-depth analysis of the causes have not been done and hence this study evaluates the relationship between each cause and the level of non-performing loans. The aim is to find out factors that explain non-performing loans more than others thereby assisting bank management and regulatory authorities.

2.14 Chapter Summary

This chapter discussed the concepts of non-performing loans and credit risk and the relation between the two concepts was explained. Theoretical framework of lending was briefly discussed emphasizing areas where credit risk can arise in the credit grading process. Theories that explain the origin of non-performing loans which include adverse selection, moral hazard and agency theory were looked at. The chapter noted that credit risk is found throughout the lending process and appropriate risk management principles must be adopted to deal with nonperforming loans. Theories that explain the origins of non-performing loans were also explained. These include moral hazard, adverse selection and agency theory. The major portion of the chapter was reviewing literature on the causes of nonperforming loans, and the relationship between credit risk management and NPLs. Several causes came out of the review and the major factors are low GDP, poor management, high unemployment rate, moral hazard, lack of knowledge and experience of borrowers, diversion of funds and insider lending. The chapter also discusses management actions used to reduce non-performing loans in different countries. The next chapter (Chapter 3) presents the research methodology applied in this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter describes the methods and procedures that were used to carry out the study. The critical goal of this study is to examine the impact of credit risk management practices on the level of non-performing loans, a case of FBC Bank from 2014 to 2021. The chapter looks at the: research philosophy, research approach, research design, purpose of the study, choice, strategies, time horizon, data collection techniques, data analysis and ethical considerations.

3.1 Research Philosophy

Saunders, Kumar and Bhattacherjee (2012) define a research paradigm as the overarching term relating to the development of knowledge and the nature of that knowledge in relation to research. The three major ways of thinking about research paradigm are epistemology, ontology and axiology. Epistemology concerns what constitutes acceptable knowledge in a field of study whilst ontology is a branch of philosophy which is concerned with the nature of social phenomena as entities (Saunders et al. 2007). Knowledge is a mental state, and therefore, apparently subjective phenomena (Kumar 2011). The basic research paradigms including positivism, interpretivism and pragmatism are discussed in the following paragraphs.

3.1.1 Positivism

Saunders **et al.** (2009) defines positivism as the epistemological position that advocates working with an observable social reality. Bhattacherjee (2012) posits that positivist methods, such as survey research, are aimed at theory (or hypothesis) testing in this case the Asymmetric Information Theory. Positivist methods employ a deductive approach to research, starting with a theory and testing theoretical postulates using empirical data (Bhattacherjee, 2012). The positivist philosophy attempts to quantify aspects of the social world hence more concerned with quantitative data (Kumar, 2011). Given that the positivist perspective is hinged on quantitative data, it is assumed to be more reliable, trustworthy, and accurate and is primarily grounded with set rules and laws, thereby reducing human errors. However, positivism is

inflexible since it assumes that everything can be quantified numerically. Since some credit risk management practices are qualitative in nature, the researcher will employ qualitative approaches to ascertain their effect on NPLs. The study is not purely quantitative and thus it will not adopt the positivist perspective.

3.1.2 Interpretivism

Interpretive methods employ an inductive approach that starts with data and tries to derive a theory about the phenomenon of interest from the observed data (Bhattacherjee 2012). Thus, it is an epistemological position that advocates the necessity to understand differences between humans in their role as social actors (Saunders et al. 2009). Hammersley (2013, p. 26) and Lahm (2018) argue that interpretive research typically tries to understand the social world as it is (status quo) from the perspective of individual experience, hence an interest in subjective worldviews. Hammersley (2013) further asserts that the research methods are humanistic that is typically involving face-to-face interviews mainly with a deep desire to obtain a 'thick description' of the actor's world-views. Bhattacherjee (2012) opine that interpretive research relies heavily on qualitative data and less on quantitative data. Since the study seeks to quantify the impact of credit risk management practices on the level of NPLs, it was dominated by the quantitative research approach with few aspects of qualitative.

3.1.3 Pragmatism

Basically, pragmatism applies to a practical approach of integrating different perspectives to help collect and interpret data. Saunders *et al.* (2013) argues that the most important determinant of the research philosophy adopted is the research question, arguing that it is possible to work within both positivist and interpretivist positions. Since this study comprises of both the qualitative and quantitative aspects it will adopt the pragmatic research paradigm. According to Creswell (2014) and Riyami (2015), integrating both quantitative and qualitative data in a single study allows the use of distinct research designs that may be involving philosophical assumptions and theoretical frameworks. The pragmatism research paradigm will therefore be useful to this study in providing a comprehensive understanding to the reality pertaining to the bank's response to rising levels of NPLs. This will help the researcher to understand better drivers, strategies and practices of credit risk management (CRM) adopted by banks in their attempt to reduce the level of NPLs and the associated benefits and costs of establishing a comprehensive Enterprise Risk Management Framework. The research is hinged

on primary data, hence it will adopt the pragmatism research paradigm as it is assumed to be more reliable, trustworthy, and accurate and primarily grounded with set rules and laws hence reducing human errors (Bhattacherjee, 2012, p. 55).

3.2 Research Approach

In this study, mixed methods approach will be employed as a strategy of inquiry. The mixed methods approach combines both the qualitative and quantitative research approaches (Gray 2011). According to Punch (2011), the mixed methods approach is highly convenient as it allows the researcher to use quantitative and qualitative techniques either interdependently or independently. Therefore, for this study, the choice to utilize mixed methods approach is based on the sense that it uses the strengths and similarities of both qualitative and quantitative approaches. Mixed methods approach absolves the weaknesses of the research paradigm by capitalizing on the strengths of both qualitative and quantitative research approaches (Gundlapalli, Jaulent & Zhao, 2017). The mixed method approach uses structured questionnaires to collect quantitative data and indepth interviews to collect qualitative data (Saunders, 2012). The qualitative approach is concerned with assessing the views, opinions and perceptions of banking officials on the role of credit risk management on curtailing the level of NPLs at FBC Bank. On the other hand, the quantitative approach is concerned with quantifying the impact of credit risk management (CRM) practices on level of NPLs.

The mixed research method based on the pragmatic research paradigm and exploratory research design will be adopted. On data collection, the researcher will use triangulation of research instruments where the researcher will first administer questionnaires to non-managerial employees at FBC Bank working under Risk Management and then structured interviews will follow to the top managers responsible for Risk Management at FBC Bank. After this, secondary data will also be collected from the audited annual financial statements for the bank. Thus, the approach follows a sequence. More so, a partially mixed sequential dominant status design will be conducted as an addition to the triangulation approach. In the first stage of the study, the questionnaire will be analysed using the quantitative phase, in the second stage, the qualitative phase will cater for semi structured interview and in the third and final stage secondary data which will be collected from the bank's financial statements from previous years will also be analysed in a trend as well. In this study, the quantitative research will represent the dominant phase.

Justification

The researcher chooses to use the mixed research approach because it offers a two-phase sequential design, in which phase one results can be used to develop and inform the purpose and design of phase two component. It also provides qualitative and quantitative research strengths. The mixed research approach produces more complete knowledge necessary to inform theory and practice. It is believed to increase the generalizability of research results. Lastly, the approach can add insights and understanding that might be missed when only a single method is used (Onwuegbuzie and Teddlie, 2003). However, the mixed method approach has a short fall in that, the researcher has to learn about multiple methods and approaches and understand how to appropriately mix them in the course of a study (Tashakkori and Teddlie, 2007).

3.3 Research Design

According to Saunders et al (2016:163) research strategy, methodological choice and time horizon can be thought of as focusing on research design. Abdul (2014:89), the research design is the framework that substantiates; supports and holds the research together and intact. Since the researcher contemplates on adopting the mixed research approach, the exploratory sequential mixed methods design will be appropriate for the study. The purpose of an exploratory sequential mixed methods design involves the procedure of first gathering qualitative data to explore a phenomenon and then collecting quantitative data to explain relationships found in the qualitative data. The design will be adopted since the knowledge about credit risk management practices and their impact on non-performing loans will be researched in depth. This study has adopted an exploratory sequential mixed methods design with the aim to identify casual links between the factors or variables that pertain to the research problem. This research seeks to identify the causal relationship between two variables mainly credit risk management practices and level of non-performing loans.

3.4 Research Strategy

This study utilise the case study research strategy. A case study is an in-depth inquiry into a topic or a phenomenon within its real life setting (Saunders et al 2016:184). The rationale of adopting the case study strategy is that it allows detailed analysis of the research problem and gives room for the use of different research instruments to gather substantial information on

the case (Garry, 2013:145). In this case, the study will focus explicitly on credit risk management strategies and practices deployed by FBC Bank and to ascertain the impact of these CRM practices on the level of non-performing loans (NPLs).

3.5 Time Horizon

A research can be cross-sectional or longitudinal research (William, 2013:180). This study is a longitudinal research as it investigates credit risk management practices and non-performing loans at CBZ from 2009 to 2016. The rationale of using longitudinal being its capacity to study change, development and provide a measure of control over some of the variables being studied (Saunders et al 2016:200).

3.6 Target Population

The target population is categorised into two; the quantitative and qualitative study populations. The population for the quantitative portion of this study consists of all Branch Credit Analysts and all Head Office Accounts Relationship managers, who deal directly with client loans. FBC Bank has 56 branches around Zimbabwe and its Head Office is located in Harare, Zimbabwe. There is a total of 86 branch Credit Analysts also known as Loan officers and a total of 80 Accounts Relationship Managers at Head Office. To ensure that the research findings can be generalised to the entire FBC Bank, the research will draw its sample elements from all FBC branches in the country. The target population consists of 166 credit oriented staff, all of whom are conversant with credit risk management strategies the Bank had adopted over the years.

On the other hand, the target population for the qualitative portion of the study consists of 6 top Risk Managers at FBC Bank.

3.7 Sampling Strategy

Sampling is critical as it is not feasible to collect information from all the members of the total research population (Larry, 2014:492). The choice of the sampling strategy is one of the crucial aspects of the research and therefore deep considerations would be done to ensure that an appropriate sampling strategy and sampling technique is selected (Sandero, 2015:89). A research sample is derived from the target population and the rationale of coming up with the research sample is that it is not feasible in most circumstances to collect information from all the members of the target population. This study will use the probability sampling technique

to come up with the research sample and a simple random sampling technique was used to select the sample. Probability sampling gives all the members of the target population equal chances to take part in the study and non-probability sampling is not random (Marble, 2012:94)

Table 3.1: Population and sample

Target Population	All (166), credit risk officers and loan management for CBZ
Sample Frame	All 56, CBZ Branches in Zimbabwe and Harare Head Office
Sample	Simple Random Sampling

3.7.1 Determination of Sample Size

Sample size is the number of observations in a sample (Hastings and Peacock, 2000). Borg (1982) defines a sample size as a portion of the total population, which must be viewed as an approximation of the whole population rather as a whole in it. The sample size constitution to be used by the researcher will be derived using the Yamane formula. Yamane (1967:886) provides a simplified formula to calculate sample sizes;

$$n = \frac{N}{1 + N(e^2)}$$

Where ***n*** is the sample size, ***N*** is the total population, and ***e*** is the level of precision

Using 95% confidence level, the level of precision will be given by

$$e = 1 - 95\% = 5\% \ (significance\ level)$$

So, in this research N is the total number of credit analysts and accounts relationship management for CBZ Bank.

N = 166

e = 0.05

The sample size for the study will be determined by;

$$n = \frac{N}{1 + N(e^2)}$$

$$n = \frac{166}{1 + 166(0.05^2)}$$

$$n = 118$$

The study will use 118 credit oriented staff to constitute its sample. This sample size constitute to 71% of the total population, implying that nearly three quarters of the total population is included in the sample. This sample size is large enough and sufficient to capture realistic views and perceptions of the credit risk oriented staff on the effects of credit risk management strategies on the level of non-performing loans.

3.8 Data collection instruments and procedures

In this study, data sources included questionnaires to be administered to a sample of non-managerial employees at FBC Bank, and from in-depth interviews with the selected top Risk Managers at FBC Bank. On data collection, the researcher will use triangulation of research instruments where the researcher will first administer questionnaires to non-managerial employees at FBC Bank working under Risk Management and then structured interviews will follow to the top managers responsible for Risk Management at FBC Bank. After this, secondary data will also be collected from the audited annual financial statements for the bank. Thus, the approach follows a sequence. In this case, the researcher will only interview a few participants because the whole idea is data corroboration unlike when conducting a 100 percent qualitative study.

3.8.1 Quantitative data collection procedure and instrument

Questionnaires will be used to collect quantitative data. According to Saunders *et al.* (2012), there are four ways a questionnaire can be administered, and these are; the mailed questionnaire, collective administration, online questionnaire (survey) and administration in public places. To boost the response rate the researcher will adopt a collective administration method. In this study, quantitative data will be collected using e-mailed questionnaires. The electronic questionnaire will be sent to each potential respondent upon which the respondent is supposed to fill manually and send the scanned copies via email back to the researcher. In the questionnaires, respondents will be given clear instructions on how to mark their responses. Respondents will answer the questionnaires individually and anonymously.

For this study, questionnaires are the sole means of quantitative data collection from the respondents. Gray (2011) states that questionnaires are prearranged structured or unstructured questions in which respondents are expected to respond to the very set of questions. Ornstein

(2013) defines a questionnaire as a set of questions used to gather information about a certain subject on a wider scale. Questionnaires will be based on a combination of both predetermined and standardized closed-ended questions. The researcher will employ closed-ended questions because of their inclusiveness in nature since they produced easily quantifiable data. The questionnaires will be designed with the core objective of ascertaining the causal relationship between credit risk management (CRM) practices and level of NPLs. Moreover, the questionnaires will cover four different sections, and each area included several sub parameters. The main factors include demography, CRM drivers, strategies and practices as well as assessing the effect of technology and innovative systems on credit risk management. The responses from the respondents on closed questions will be scaled and coded on a 5-point Likert scale where Strongly Agree = 5, Agree = 4, Not Sure = 3, Disagree = 2, and Strongly Disagree = 1. The numeric coding will be done to enable analysis of the responses with IBM SPSS Statistics version 25.

Kumar (2011) argues that the questionnaire has the following advantages as a research instrument.

A questionnaire will be used because it is less expensive to construct and distribute to respondents. Further, questionnaires allow the researcher to quickly discover large volumes of respondents from different locations within a short space of time. Also, the respondents will have the room to answer those questionnaires willingly during their spare time thus, the researcher could save time, human and financial resources. The use of the questionnaires is therefore, convenient and inexpensive. Questionnaires are also widely preferred by both researchers and respondents as better research instruments as they offer greater anonymity relative to face to face interviews.

3.8.2 Questionnaire pilot study

A pilot study refers to a trial administration of an instrument to identify any flaws (Kumar, 2011). When a questionnaire or an interview is used as a data gathering instrument, it is necessary to determine whether questions and directions are clear to respondents and whether they understand what is required of them (Creswell 2009). A pilot study will be conducted to validate the questionnaire as well as the interview guide. A sample of 4 employees (2 non-managerial and 2 managerial) will be selected from the sample population to participate in the pilot study. Two non-managerial employees will be served with the questionnaires to fill in

while the other two will be selected to participate in the in-depth interviews. This will enable the researcher to further refine the data collection instruments (questionnaire and interview guide), eliminating the problems in which the respondents were faced with while responding to the questions during data recording.

3.8.3 Validity and reliability of quantitative data

Validity is the extent to which the findings are real, that is the success of the measurement scale in measuring what was set out to be measured (Saunders, Lewis & Thornhill 2009; Mbugua 2010). In order to enhance validity, the researcher will discuss with the supervisor, the appropriateness of the questions in answering crucial issues in the study. Questionnaires were thoroughly scrutinized in order to make sure that the respondents get the right questions so that they would easily respond to them. Baumgarten, (2012, p. 4) describes reliability as the consistency of measurements of a concept. According to Saunders *et al.* (2003), reliability refers to the degree to which data collection tools will yield the same results when repeated. The reliability of research instruments refers to the extent to which measuring instruments contain variable errors that appear inconsistently from observations during any one measurement by the same instrument (White 2000, p. 47). Threats to reliability include observer bias; observer error, participant error, and participant bias. The simplicity and clarity of questions reduced the temptation to give wrong answers. The pilot study ensures that the questions in the questionnaires are clear and easy to respond. Litwin (1995, p. 24) indicates that the internal consistency reliability of the questionnaire data is measured by calculating a statistic known as Cronbach's co-efficient Alpha. Thus, the reliability of data will be measured using the Cronbach alpha coefficient. Cronbach's alpha, α (or coefficient alpha), developed by Lee Cronbach in 1951, measures reliability, or internal consistency. "Reliability" refers to how well a test measure should be. Cronbach's alpha tests to see if multiple-question Likert scale surveys are reliable (Tavakol & Dennick 2011). These questions measure latent variables, hidden or unobservable variables like a person's conscientiousness, neurosis or openness. They are very difficult to measure in real life. The study will use the Cronbach's alpha to evaluate if the questionnaire is accurately measuring the variables of interest. Here, the study seeks to evaluate the accuracy of the questionnaire in exploring the relationship between credit risk management practices and level on NPLs at FBC Bank.

The formula for the Cronbach's Alpha is given by;

$$\alpha = \frac{N \times \bar{c}}{\bar{v} + (N-1)\bar{c}}$$

Where:

N = the number of items.

$\bar{c}$ = average covariance between item-pairs.

$\bar{v}$ = average variance.

Rule of Thumb for Results

A rule of thumb for interpreting alpha for dichotomous questions (in other words, questions with two possible answers) or Likert scale questions is:

Cronbach's alpha	**Internal consistency**
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

In general, a score of more than 0.7 is usually considered acceptable (Tavakol & Dennick 2011).

3.8.4 Qualitative data collection procedure and instrument

To collect qualitative data the researcher will use in-depth interview guides with questions related to the subject understudy. In this case, the researcher will only interview a few participants because the whole idea was data corroboration unlike when conducting a 100 percent qualitative study. The theoretical roots of in-depth interviewing are in what is known as the interpretive tradition. According to Taylor and Bogdan (1998, p. 77), in-depth interviewing is ‘repeated face-to-face encounters between the researcher and informants

directed towards understanding informants' perspectives on their lives, experiences, or situations as expressed in their own words'. In-depth interviews involve face-to-face, repeated interactions between the researcher and his/her informant(s) with the researcher seeking to understand the informant's perspectives. In this study, the researcher will utilize in-depth interviews to gather information on the subject matter. The repeated contacts and extended length of time spent with an informant enhanced the relationship between researcher and informant. This will lead to the corresponding understanding and confidence between the two resulting in in-depth and accurate information.

The researcher will conduct a thematic analysis to identify patterns of themes in the interview data. The study will use the IBM SPSS Statistics version 25 to aid in data analysis.

3.8.5 Interview pilot study

Since the interview participants are within the vicinity of the researcher, an interview pilot study will be conducted with two potential participants. The pilot study will be conducted in order to assess the trustworthiness of the data, the credibility of the instrument as well as the consistency of the questions contained in the in-depth interview guide.

3.8.6 Credibility and trustworthiness of qualitative data

Zhang and Wildemuth (2009) describe trustworthiness as the true value of the study findings. Gasson (2004) points out that trustworthiness in qualitative research concerns dependability, credibility, confirmability and transferability. In this study, trustworthiness of the data gathered will be discussed with reference to credibility and dependability. Regardless of the type of study being conducted and its purpose, the most important thing in the analysis is respect for the data. When the interview results are shared with researchers, the researcher should be transparent about everything in the research process, from how the participants were recruited to how the analysis of qualitative responses was performed. This makes it easier for readers to trust the credibility of study results.

Ary (2010) stated that credibility in qualitative data refers to the truthfulness of the inquiry's findings. Credibility value involves how well the researcher has established confidence in the findings based on the research design, participants and context. Shenton (2004) highlights that credibility concerns the assurance that the study measures what is actually intended. Wimmer and Dominick (2006) point out that credibility can be built by leaving an audit trail. An audit

trail is referred to as a permanent record of the original data used for analysis and the researcher's comments and analysis methods (Wimmer & Dominick 2006). In order to ensure credibility in this study, the researcher will use purposive sampling to select a sample of top Risk Managers at FBC Bank. Triangulation will be used to confirm data credibility. Moleong (2011) defines triangulation as a technique that utilizes data credibility to understand what is being investigated. Streubert and Carpenter (1995, p. 313) posit that credibility is demonstrated when participants confirm that the reported research findings are their own experiences. Thus, the research participants will be allowed to go through the drafted versions of the data collected from them. Marshall and Mofokeng (2011) point out that dependability is a construct in which a researcher attempts to take into consideration the changing conditions in the phenomenon chosen for research as well as changes in the research design. Gasson (2004, p. 94) suggests that clear and repeatable procedures regarding the means in which research will be conducted is required to ensure the dependability of findings. Further, consistency of the research processes needs to be confirmed in order to establish dependability (Zhang & Wildemuth 2009). Therefore, for this study, the researcher will provide an in-depth description of all methods used to gather and analyse data so as to allow for the integrity of study findings to be scrutinised.

3.9 Ethical Considerations

Magwa and Magwa (2015) asserted that when conducting research with human subjects, the researcher needs to conduct the research in accordance with ethical considerations. Ethical considerations must cut across the entire research process from its start right to the conclusion. For this study, the researcher will obtain an express permission from the relevant university to conduct the study. Therefore, the researcher will be guided and fully comply with the rules and procedures from the parent faculty that the researcher belonged to and state universities in Zimbabwe in general. The researcher will protect the participants from physical and mental discomfort, harm and danger which might have arisen during the course of the study. The participation of all participants in the research will be based on voluntary and informed consent. Thus, no participant will be coerced, forced or somehow influenced to participate in the proceedings of this study without their utmost conscious consent. The researcher will also observe the confidentiality of the participants. That is to say, participants have the right to remain anonymous and if their identification is required anywhere, anyhow, their sole approval will be needed. The names, positions, monikers or anything that might be traced to the

participant will be removed. The researcher will also ensure that confidentiality of the participants is communicated to them.

3.10 Data Analysis

3.10.1 Quantitative Data Analysis

The data gathered is presented and analysed in a way that would enable intellectual conclusions to be drawn. Statistical methods of presentation such as tables, diagrams and graphs such as pie charts, trend and bar graphs would be used to aid comparability and ensure meaningful interpretation. The data collected is coded so as to isolate and collate the various opinions, experiences and facts reported by the respondents, which will make it possible to assess the slant of the different responses and measure them. Codes are assigned to qualitative responses and these will be used to determine the nature of the responses. The coded data will then be cleaned using Microsoft Excel Spread sheet to check for accuracy and reliability. Errors identified are corrected and the data re-entered. For data that will be collected from the interviews, the thematic form of data analysis is applied. Thematic data analysis refers to the pinpointing, examination and the art of recording meaningful themes and patterns data (Martins, 2014: 87). In this study, thematic form of data analysis was practiced in three stages: Data categorising – refers to the process where massive amounts of data from audio recording and transcriptions are reduced, categorised and themes are established. This stage involves discarding useless information and writing summations and brief narrations of the major research findings. Data coding – this stage involves the use of codes (numbers, letters, and symbols) to identify data and responses collected from the participants. Statistics – This stage involves the use of descriptive statistics and various presentation tools to narrate the research findings. Conclusion and verification – this stage of data analysis involves drawing conclusion and reviewing to presented data to ensure they truly reflect the respondent's arguments and it also involve the examining the validity of the research findings.

3.10.2 Qualitative data analysis

Data conveyed through words is known as qualitative data (Merriam & Tisdell 2016, p. 105). Merriam and Tisdell (2016) further state that qualitative data analysis is a range of processes and procedures in which qualitative data develops into a descriptive presentation, understanding or interpretation of the subject under investigation. Beck (2019) indicated that

there are three processes involved in qualitative data analysis which are: identifying recurring patterns and themes, categorising data and analysing critical incidents. This study will conduct a thematic analysis of individuals' responses. A thematic analysis will be used to identify patterns of themes in the interview data. The researcher will adopt a thematic analysis due to its flexibility in use.

3.10.3 Steps in a Thematic Analysis

"Analysis involves constant moving backward and forward between the entire data set, the coded extracts of data that you are analysing, and the analysis of the data that you are producing" (Braun & Clarke 2007, p. 24). Thematic analysis describes an iterative process as to how to go from messy data to a map of the most important themes in the data. In this study, the researcher will perform the following six steps respectively while conducting a thematic analysis. First, the researcher will familiarize with the collected data, followed by assigning preliminary codes to the data in order to describe the content. Thirdly, the researcher will search for patterns or themes in the preliminary codes across different interviews. The researcher will then review themes the themes identified in step four. In step 5, the researcher will define and name the themes from the interviews. Lastly, the researcher generates a report in step 6.

3.11 Chapter Summary

The chapter highlighted on the entire methodology adopted throughout the study. Themes and concepts discussed in the chapter are research philosophy, research approach, research design, purpose of the study, choice, strategies, time horizon, data collection techniques, data analysis and ethical considerations. This study is premised on a mixed-research methodologies and the research approach used is deductive reasoning. The data collection instruments used include questionnaires and interviews. The ethical considerations made in this study are informed consent, ensuring no harm or injury, obtaining permission and ensuring confidentiality and anonymity. The next chapter will present and analyse the research findings.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.0 Introduction

The previous chapter, focused on the research methodology which was employed in conducting this study. The chapter also outlined the justifications for adopting the research methodology.This chapter provides an analysis, presentation and interpretation of data collected from the field survey conducted. The researcher presented the obtained data using graphs, pie charts and tables where necessary, data was then analysed and interpreted to come up with various descriptive conclusions to the findings. Similar responses from questionnaire and interview findings were grouped into one category. The research employed the IMB SPSS Statistic version 25 in conjunction with MS Excel to examine the impact of credit risk management (CRM) practices on the level of Non-Performing Loans (NPLs) at FBC Bank. Accordingly, inferences from the presentation are dealt with as they emerge whilst conclusions are given at the end of the chapter. The chapter is divided into eight sections. The first section focuses on determining the response rate, while the second section evaluates the reliability, validity and credibility of both the data collected and research instruments used. The third section outlines the demographic characteristics of the respondents. This is then followed by an examination on the factors affecting the level of non-performing loans at FBC Bank. The fifth section focuses on ascertaining the effect of NPLs on bank performance while section six assesses the relationship between credit risk management practices and the level of NPLs at FBC Bank. Section seven also assesses the effect of technology and innovative systems on credit risk management. The chapter culminates with section eight which is the chapter summary.

4.1 Response Rate

The principal research instruments used were questionnaires. For the quantitative part of the study, a total of 118 questionnaires were administered some physically and some through email. The completed questionnaires were edited for completeness and consistency. Of the 98 returned questionnaires a total of 97 questionnaires were deemed usable for analysis. The returned questionnaires represented a response rate of 82.2% and this response rate was deemed to be adequate in the realization of the research objectives (Mugenda 2003). This response rate

was good and representative and conforms to Mugenda and Mugenda (2019) stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of at least 70% is considered excellent for data analysis. To collect qualitative data, all the targeted 6 participants were interviewed.

Table 4.1: Response rate

Instrument	Target respondents	Returned	Response rate
Questionnaires	118	98	82.2%
Interviews	6	6	100%

Source: Own computation from primary data

4.2 Reliability analysis

The pilot study was conducted to pre-test and ascertain the legitimacy and reliability of the data collection instrument using the 4 questionnaires before the main study. The reliability of the questionnaire was tested using Cronbach's alpha. The result tabled gives an analysis of the outcome where the Cronbach's Alpha values were averaged to 0.8 to reflect the scale. This is up-scaled as acceptable according to George and Mallery (2003). It is also closer to 1.0 denoting greater internal consistency of the elements under consideration

Table 4.2: Reliability analysis results

Cronbach's Alpha	N of Items
0.8	39

Source: Author's compilation from SPSS 25

The average Cronbach's Alpha is 0.8 which can be accepted as good and highly within the required Cronbach's alpha coefficient of over 0.7 which give an assurance of an instrument's consistency and dependability.

4.3 Crucial background information

4.3.1 Demographic characteristics of the sample

Most of the questionnaire respondents were credit analysts representing 56.7% of the total respondents. Managers represent 28% of the respondents each while other officers represented 15.3%. Their working experience is indicated in table 4.3 below. All of them have been with the bank for more than 5 years. Their age range is between 25 and 50 years.

Table 4.3: Position in the organisation (N=97)

RESPONDENT	NUMBER OF QUESTIONNAIRES		RESPONSE RATE
	DISPATCHED	RETURNED	
Managers	30	27	90%
Credit Analysts	68	55	81%
Other Officers	20	15	75%

Source: Own computation from primary Data

Below is a pie chart showing the proportion of survey respondents with respect to working experience.

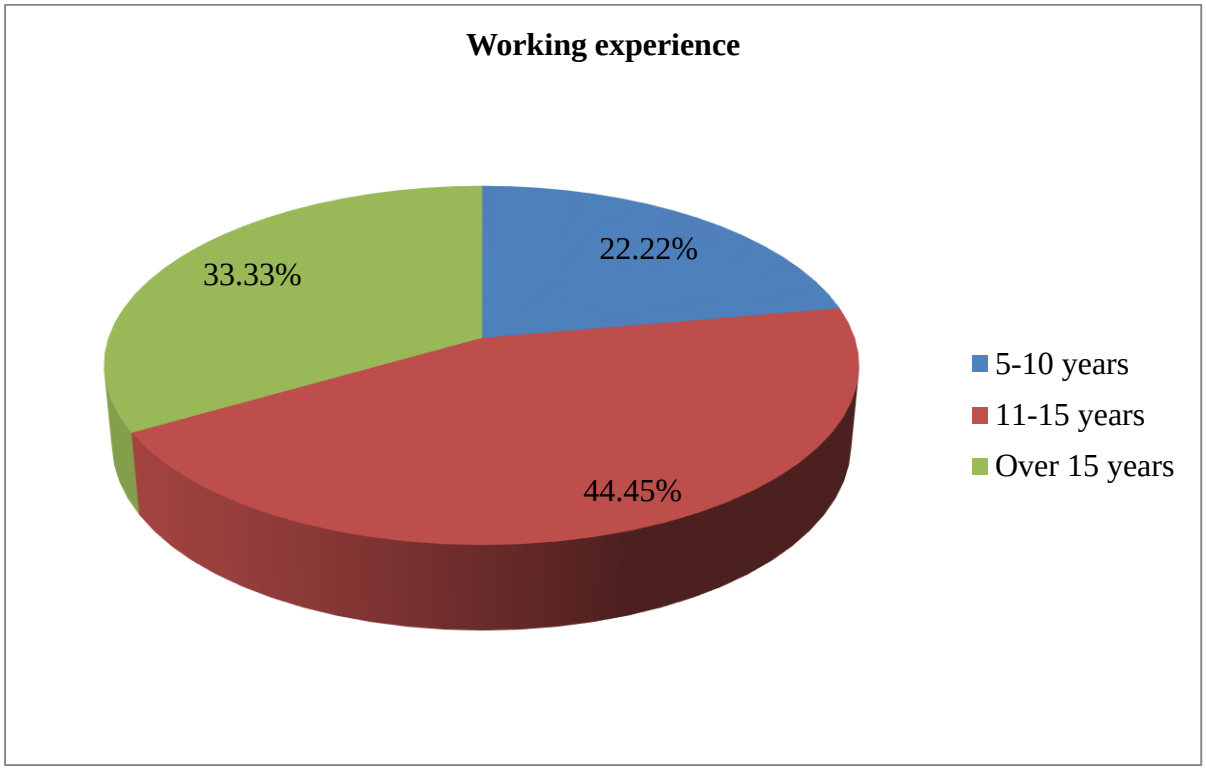


Figure 4.1: Respondents working experience

Source: Primary data

The results above show that all respondents have worked in the bank for more than five years and they all possess a qualification which is equivalent to a diploma and above. This shows that all respondents possess required knowledge of credit risk management and non-performing loans.

4.3.2 Formal Written Credit Policy Manual

The researcher sought to understand from the respondents whether FBC bank had a formal written credit policy manual. The findings are presented in the form of a frequency distribution table below.

Table 4.4: Formal Written Credit Policy (N=97)

	Frequency	**Percentage**
Yes	97	100%
Total	97	100%

Source: Primary data

Data findings from all (100%) of the respondents indicated FBC bank had a formal written credit policy manual. Having a written policy helps the bank to ensure consistent credit decisions implying that all customers will be treated fairly. It can also be used as a training tool for those working under credit risk management function of the bank. It can be used to help evaluate or benchmark job performance against established standards documented in the policies and procedures manual. A credit policy also determines which clients are eligible for credit from the bank and outlines how the bank will collect all unpaid debts and the consequences for failure to meet financial commitments. Credit policies are important because they keep FBC clients accountable and boost the bank's cash flow.

4.3.3 Formal Written Credit Policy Manual Review

The respondents were further prompted to indicate how often the formal written credit policy manual is being reviewed by the bank. The findings are presented in the graph below.

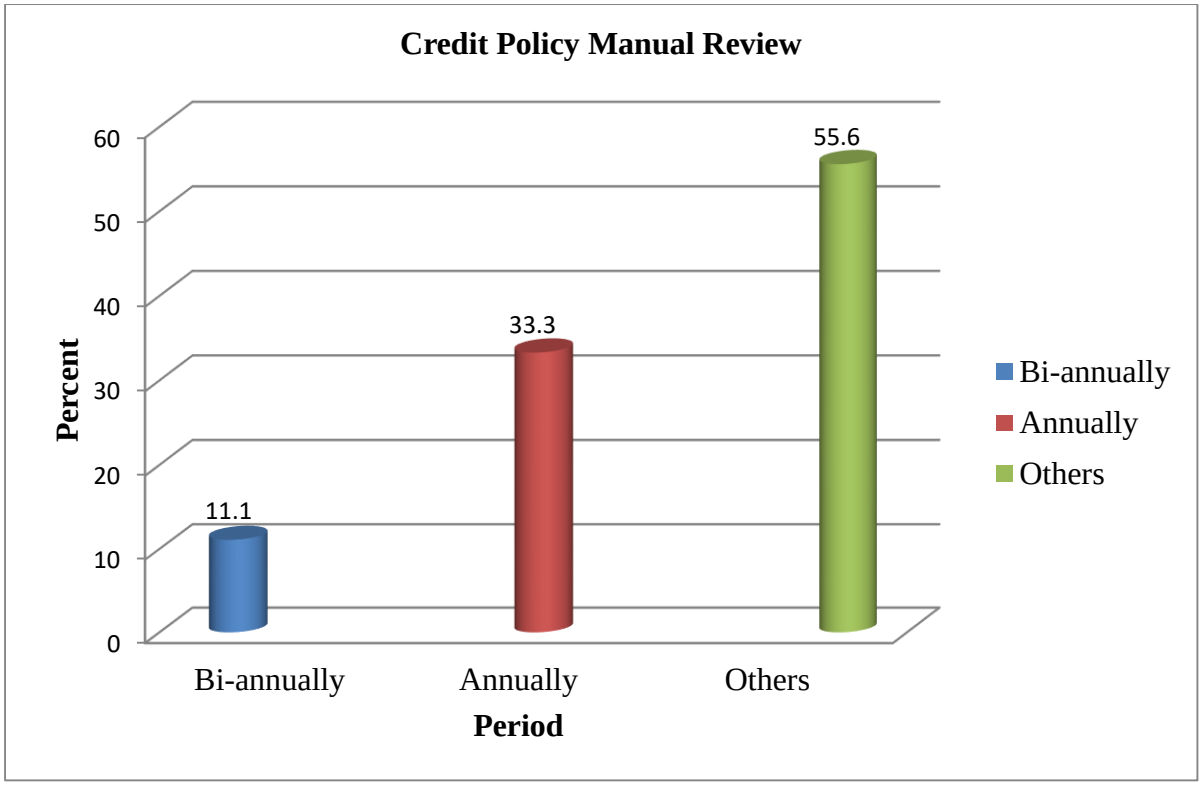


Figure 4.2: Formal Written Credit Policy Review

Source: Primary data

From the data findings, 11.1% of the respondents indicated that their branches were reviewing formal written credit policy manual bi-annually, while 33.3% indicated that their formal written credit policy manual were reviewed annually while 55.6% of the branches indicated that their formal written credit policy were reviewed on irregular basis (other). Thus there is sufficient evidence from the majority of the FBC branches, 55.6% that there is no prespecified time periods for reviewing formal written credit policy. This has the negative implications for the bank's credit risk management policy in that concerns and adjustments required on the credit policy will go unnoticed. There is therefore need for the bank to specify time intervals for reviewing its credit policy.

4.3.4 Non-Performing Loans Problem

The researcher also sought to establish whether the issue of non-performing loans is regarded as a critical problem at FBC bank. The respondents were drawn from all 16 FBC bank branches nationwide. The findings are presented in the following frequency table.

Table 4.5: Problems of Non-performing loans (N=97)

	Frequency	Frequency
Yes	97	100%
Total	97	100%

Source: Primary data

From the study findings, all respondents (100%) indicated that the issue of non-performing loans is a critical problem at FBC bank with the major contributors being agricultural loans. It was further highlighted that non-performing loans are reducing the bank's lending capacity and profitability. This result concurs with empirical literature. Banks with a high volume of NPLs often experience a reduction in net interest income, an increase in impairment costs and additional capital requirement for high-risk weighted assets (Fredrik and Nyasaka, 2017:245). Furthermore, NPLs require additional management time and servicing costs to resolve the problem (McManus, 2016:17).

4.4 Objective 1: Main factors influencing the level of NPLs at FBC bank

The first objective of the research was to examine the main factors influencing a rise in non-performing loans (NPLs) at FBC bank. To achieve this objective, the study sought the perceptions of respondents on the extent to which integrity of borrower, lenient credit terms, insider loans, poor credit policy, poor credit monitoring, inadequate credit risk management and lack of collateral security; has triggered a rise in non-performing loans (NPLs) at FBC bank. The results of this inquiry are shown in form of both a frequency table and bar chart shown below.

Table 4.6: Factors influencing the rise in non-performing loans (NPLs) (N=97)

Contributory factor	Strongly Agree/Agree	Strongly Disagree/Disagree
Integrity of borrower	66.7%	33.3%
Lenient credit terms	77.8%	22.2%
Insider loans	0.0%	100.0%
Poor credit policy	77.8%	22.2%
Poor credit monitoring	77.8%	22.2%
Inadequate risk management	66.7%	33.3%
Lack of collateral security	33.3%	66.7%

Source: Primary data

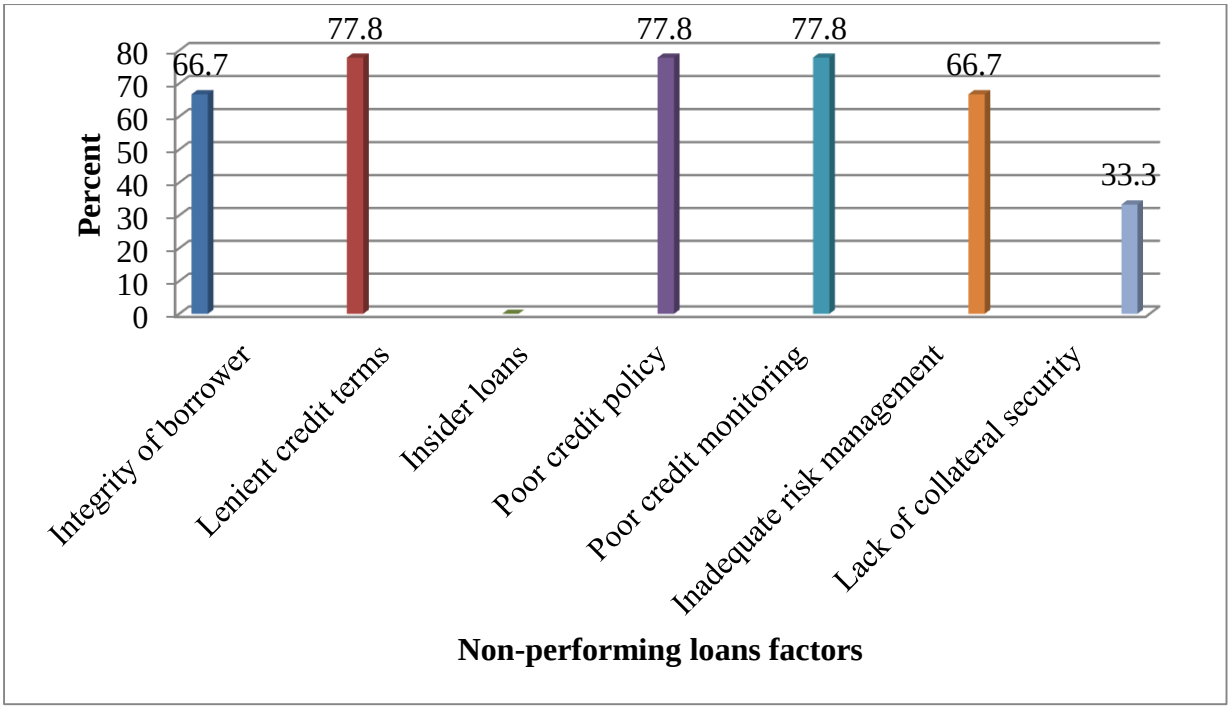


Figure 4.3: Factors influencing Non-performing loans

Source: Primary data

Non-performing loans (NPLs, henceforth) represent the main challenge that jeopardizes the steadiness of the banking sector (Fredrik & Nyasaka, 2017). The purpose of this study is to explore the main determinants of FBC banks' non-performing loans in Zimbabwe.

The results shown in Table 4.6 indicate that the majority of the respondents (77.8%) strongly believe that non-performing loans at FBC bank are mainly a result of lenient and poorly defined credit terms. The empirical findings indicate that the level of non-performing loans is more sensitive to bank specifics than macroeconomic factors. This implies that the level of NPLs at FBC bank has been triggered significantly by the bank's poor and lenient credit terms. This leniency in credit terms has been the cause for rising NPLs in many Microfinance Institutions (MFIs) especially those aimed at eradicating poverty amongst financially marginalized communities (Smith, 2013; Dyke, 2017; Prerryer *et al.*, 2018). The bank's credit risk management was therefore considered inefficient and inadequate to deal with the problem of NPLs plaguing the bank.

Results of the study also show that 66.7% of the respondents believe that the rise in the level of NPLs at FBC bank has been due to the integrity of the borrower and bank's inefficient credit risk management. Interview participants also agreed with this assertion, and they added that

lack of latest credit scoring and evaluation technologies have resulted with FBC offering loans to low-quality borrowers. Similarly, 66.7% of the respondents and all interview participants (100%) indicated that the bank's credit risk management is not efficient enough to tackle the problem of non-performing loans (NPLs). A large body of literature attempted to address the link between bank inefficiency and bank credit risk, yet the results are vague. Berger and DeYoung (2017) investigated a sample of US bank spanning the period between 1985-2014 and formulated three main hypotheses. The bad management hypothesis suggests that due to the poor managerial skills of banks' managers, low-cost efficient banks incur high levels of NPLs, through inadequate collateral evaluation, poor credit scoring and low borrower monitoring. This hypothesis was further validated by Podpiera and Weill (2018) who investigated Czech banks between 1994 and 2015. The link between bank inefficiency and NPLs was further explained by the bad luck hypothesis, indicating that unpredicted events such as an economic slowdown lead to an increase in NPLs. During these economic crises, managerial efforts are doubled resulting in extra operating costs, which in turn, impacts banks' cost efficiency (Berger and Deyoung, 2017).

Additionally, 77.8% of respondents also highlighted that NPLs at FBC has been due to the bank's poor credit policy and poor credit monitoring. There is an abundant amount of literature that addresses the association between poor credit policy and the level of NPLs. On one hand, scholars document that banks with poorly framed credit policy and poorly conducted credit monitoring process are more likely to incur higher loan losses (Alhassan *et al.,* 2019; Louzis *et al.,* 2020; Salas & Saurina, 2021; Solttila & Vihriâlâ, 2018). This link was explained by the fact that banks in less developed countries are less able to conduct proper loan screening given their lack of sophisticated risk management techniques (Salas and Saurina, 2021). In the same context, these banks in developing markets are not capable of devoting adequate resources to loan analysis and assessments which cause them to grant loans to low-quality borrowers (Louzis *et al.,* 2021).

Lack of collateral security has been considered to be one of the notable factors contributing to NPLs at FBC bank. This has been supported by 33.7% of respondents. A drop in the value of collateral for loans taken could negatively affect the loan quality of consumer loans. Literature has revealed that as low-quality borrowers tend to default on their loans as they see that the collateral for the loan has significantly lost value and this has resulted with rising NPLs amongst banks especially in developing countries (Alhassan *et al.,* 2019; Louzis *et al.,* 2020; Salas & Saurina, 2021; Solttila & Vihriâlâ, 2018).

4.5 Objective 2: To ascertain the effect of NPLs on bank performance

The study's second secondary objective was aimed at establishing the effects on non-performing loans on bank's financial performance. The study sought information from non-performing loans, lending capacity, capital markets, shareholders' funds, insolvency, undercapitalization and interest rates. Table 4.7 used mean, standard deviation, total correlation and Cronbach's alpha as a statistical tool that was used to rank the variables from the highly significant to the lowly significant.

Table 4.7: Non-Performing Loans on Financial Performance (N=97)

Statement on effect of NPLs on Bank performance	Mean	Std. Deviation	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Non-performing loans negatively affects a bank's lending capacity due to diminished core capital	4.47	0.616	0.43	0.811
Non-performing loans have a negative effect on the bank's profits through increased provisions	4.7	0.634	0.608	0.799
High levels of non-performing loans deny banks easy access to capital markets; both Debt and Equity.	4.28	0.745	0.646	0.792
Non-performing loans negatively affects the shareholder's funds	4.44	0.852	0.591	0.794
Non-performing loans can result to insolvency thus collapse of banks	4.38	0.917	0.536	0.799
High levels of non-performing loans can lead to undercapitalization of the bank resulting to job losses	3.8	1.042	0.621	0.788
Non-performing loans leads to revision upwards of interest rates thus denial of credit.	3.3	1.049	0.206	0.834
Non-performing negatively affect a country's Gross Domestic Product (GDP)	3.98	1.105	0.531	0.799
High prevalence of non- performing loans creates a negative signalling effect in the stock market thus lower share prices and market capitalisation.	3.7	1.268	0.692	0.778
Non-performing loans leads to shortening of loan repayment periods	3.19	1.308	0.389	0.821
Overall	**4.024**	**0.9536**	**0.525**	**0.838**

Source: Author's compilation from IBM SPSS Statistic version 25

From the table 4.7 above, it is indicated that the item mean scores ranged from 3.19 to 4.70. The lowest rating was for the item "to assess the effects of non-performing loans and it was found that non-performing loans lead to shortening of loan repayment periods" with a mean of 3.19 (SD=1.308) and the highest score was for the item "Non-performing loans negatively affects a bank's lending capacity due to diminished core capital" with a mean of 4.47 (SD=0.616). The item to total correlations ranged from 0.389 to 0.430 which was acceptable. The Cronbach's alpha for the effects of non-performing loans on financial performance scale was 0.838 which is good reliability.

4.5.1 Non-Performance Loans and Profitability

Table 4.8 shows the level at which respondents agreed and disagreed to the statement of effects of non-performance loans on profitability. From the table, the study confirms that 2.9% of respondents disagreed that non-performing loans have a negative effect on the bank's profits through increased provisions, 18.6% agreed and 78.6% strongly agreed to the statement.

Table 4.8: Non-Performing Loans and Profitability (N=97)

Non-performing loans have a negative effect on the bank's profits through increased provisions		
	Frequency	**Percentage**
Disagree	2	2.90%
Agree	18	18.60%
Strongly Agree	77	78.50%
Total	**97**	**100.00%**

Source: Author's compilation from IBM SPSS Statistic version 25

4.5.2 Access to Capital Market

Table 4.9 shows how high levels of non-performing loans affect banks' access to capital markets. From the table, 24.3% of respondents were uncertain that high levels of non-performing loans deny banks easy access to capital markets; both debt and equity, 34.3% agreed to the statement, and 41.4% of the respondents strongly agreed that high levels of non-performing loans deny banks easy access to capital markets; both debt and equity.

Table 4.9: Access to Capital Market (N=97)

High levels of non-performing loans deny banks easy access to capital markets; both Debt and Equity.		
	Frequency	Percentage
Uncertain	23	24.30%
Agree	33	34.30%
Strongly Agree	41	41.40%
Total	**97**	**100.00%**

Source: Author's compilation from IBM SPSS Statistic version 25

4.5.3 Lending Capacity

To establish how non-performing loans negatively affects a bank's lending capacity, Table 4.10 was used. From the table, 5.7% of respondents were uncertain that non-performing loans negatively affects a bank's lending capacity due to diminished core capital, 45.7% agreed and 48.6% strongly agreed to the statement that non-performing loans negatively affects a bank's lending capacity due to diminished core capital.

Table 4.10: Lending Capacity (N=97)

Non-performing loans negatively affects a bank's lending capacity due to diminished core capital		
	Frequency	Percentage
Uncertain	5	5.70%
Agree	44	45.70%
Strongly Agree	48	48.60%
Total	**97**	**100.00%**

Source: Author's compilation from IBM SPSS Statistic version 25

4.5.4 Insolvency

Table 4.11 shows how respondents agreed and disagreed to the statement of non-performing loans and insolvency. From the study, 2.9% of respondents strongly disagreed that non-performing loans can result to insolvency thus collapse of banks, 10% of respondents were not sure about the latter statement, and 25.7% of respondents agreed to the statement. The study

also revealed that 52.9% of the respondents strongly agreed that non-performing loans can result to insolvency thus collapse of banks, while 8.6% of respondents did not take part in this statement.

Table 4.11: Insolvency (N=97)

Non-performing loans can result to insolvency thus collapse of banks		
	Frequency	Percentage
Strongly Disagree	2	2.90%
Uncertain	9	10.00%
Agree	24	25.70%
Strongly Agree	51	52.90%
Missing Values	11	8.60%
Total	**97**	**100.10%**

Source: Author's compilation from IBM SPSS Statistic version 25

4.5.5 Shareholder's Funds

Table 4.12: Shareholder's Funds

Non-performing loans negatively affects the shareholder's funds		
	Frequency	Percentage
Strongly Disagree	2	2.90%
Uncertain	4	4.30%
Agree	40	40.00%
Strongly Agree	51	52.90%
Total	**97**	**100.10%**

Source: Author's compilation from IBM SPSS Statistic version 25

Table 4.12 above shows how non-performing loans negatively affects the shareholder's funds. From the table, 2.9% of respondents strongly disagreed that non-performing loans negatively affects the shareholder's funds, 4.3% of the respondents were uncertain about the statement. The study also shows that 40% of the respondents agreed that non-performing loans negatively affects the shareholder's funds while 52.9% of the respondents strongly agreed to the statement.

4.6 Objective 3: Relationship between CRM practices and NPLs

The study sought to establish the existence of a relationship between credit risk management practices and non-performing loans. The findings are presented in the following figure.

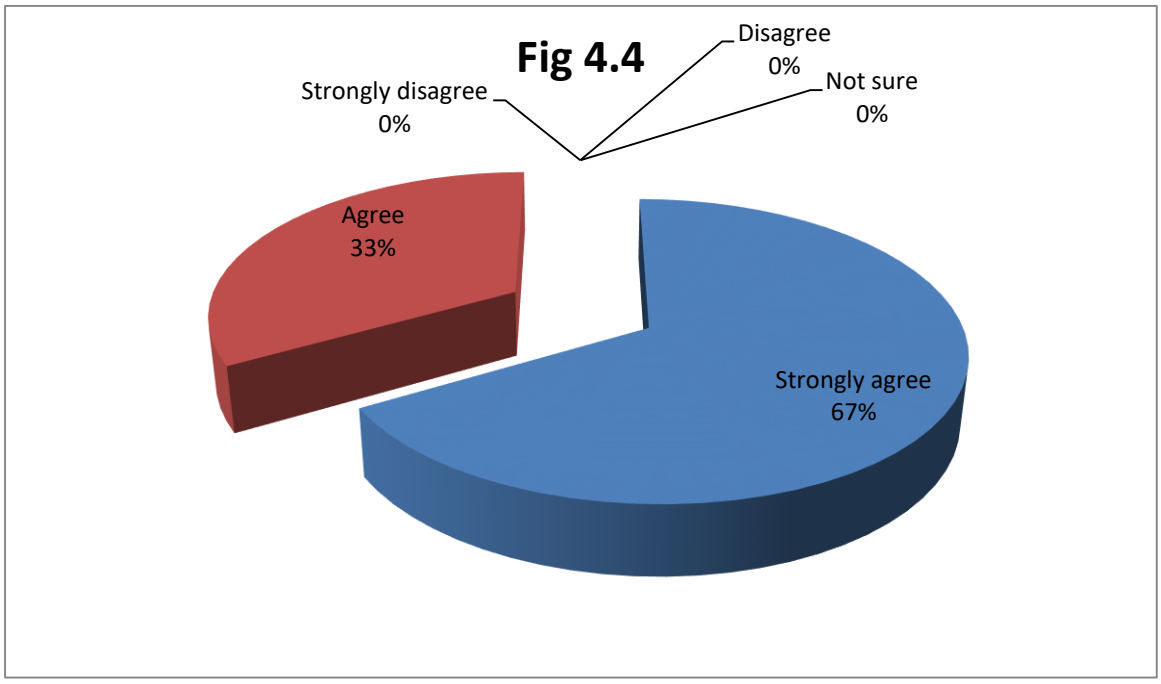


Figure 4.4: Relationship between Credit risk management and non-performing loans

Source: Primary data

From the study findings, the majority (66.7%) strongly agreed that there is a relationship between credit management practices and non-performing loans at FBC Bank and 33.3% indicated agreed. Thus there is sufficient evidence from the sample that there is a strong relationship between credit management practices and non – performing loans.

4.6.1 Impact of credit risk management practices

The study sought to establish whether the following credit risk management practices have an impact on non-performing loans at FBC Bank. The findings are presented in the following table.

Table 4.13 Impact of Credit Risk Management practices (N=97)

	Frequency	Percent
Sound credit granting process	6	66.7%
Use of credit limits	8	88.9%
Credit insurance	5	55.6%
Collateral security	4	44.4%
Establishment of appropriate credit risk environment	6	66.7%
Ensuring adequate controls over credit risk	8	88.9%

Source: Primary data

The respondents were given two possible responses namely Yes or No for the credit risk management practices above. Respondents highlighted that the top two credit risk management practices that has an impact on non-performing loans at FBC Bank are use of credit limits and adequate controls over credit risk (88.9%). Sound credit granting process and the establishment of appropriate credit risk environment were sighted as the second practices with high impact on non-performing loans. 55.6% of the respondents indicated credit insurance while 44.4% indicated collateral security.

4.6.2 Effectiveness of Credit Risk Management Systems

The study sought to establish whether the bank's credit risk management systems are effective. The findings are presented in the figure below.

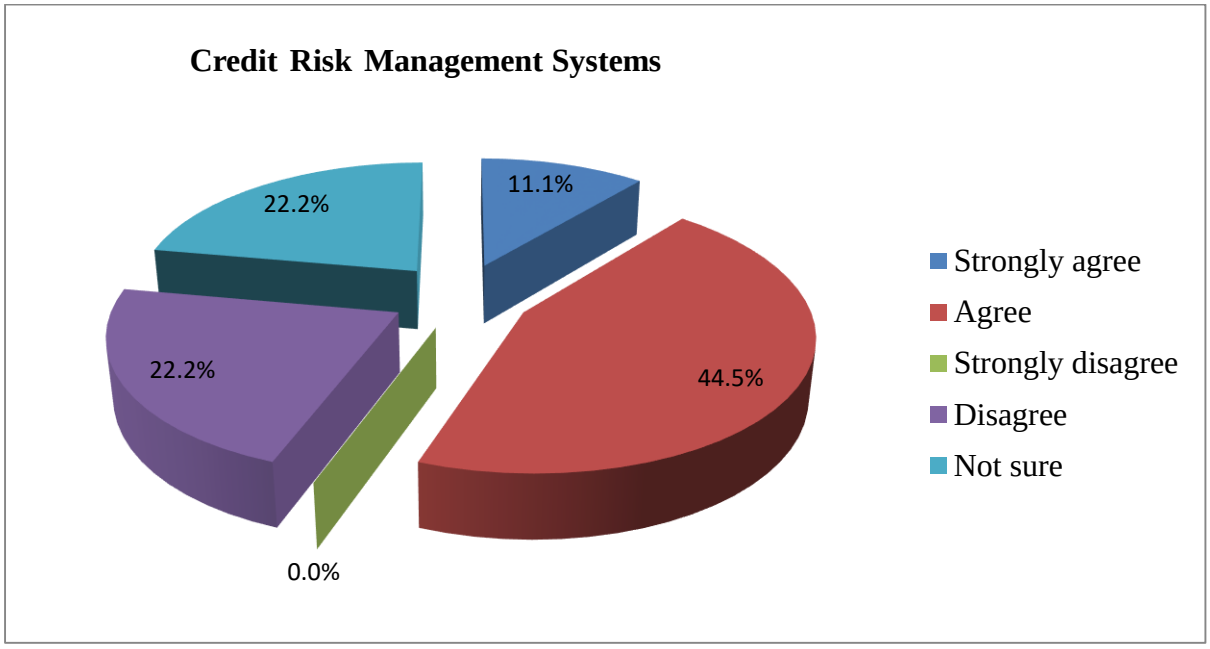


Figure 4.5: Impact of credit risk management systems

Source: Primary data

From the study findings, the majority (44.5%) of the respondents agreed that credit risk management systems at the bank are effective, 22.2% disagreed, 22.2% were not sure about their effectiveness while 11.1% strongly agreed.

4.6.3 Credit Applications Assessment

The study sought to establish whether credit applications are assessed thoroughly before final approval. The findings are presented in the following graph.

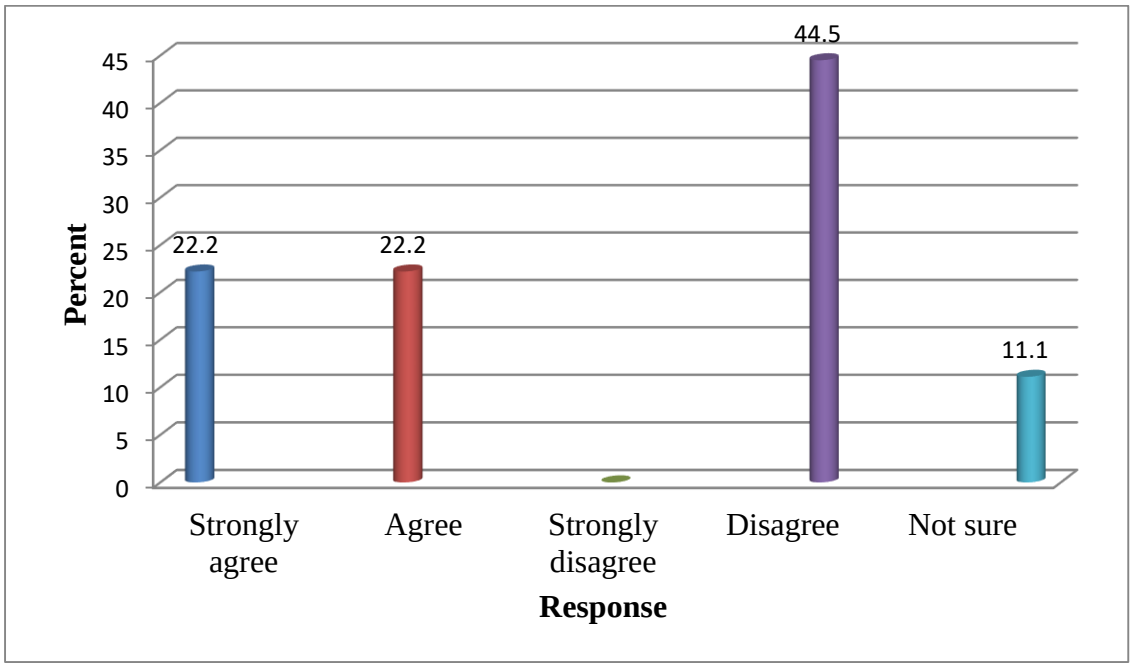


Figure 4.6: Credit application assessment

Source: Primary data

From the study findings, the majority (44.5%) disagreed that credit applications are thoroughly assessed before final approval at FBC Bank, 22.2% strongly agreed, 22.2% agreed while 11.1% indicated that they were not sure. The respondents highlighted that the bank employs credit risk management tools such as credit limits, credit insurance and collateral security when approving loan applications. All loan applications are also cleared first with the Financial Credit Bureau of Zimbabwe.

4.6.4 Inadequate Credit Risk Management

The study sought to establish if inadequate credit risk management systems at the bank has got any effects on the levels of non-performing loans. The findings are presented in the following graph.

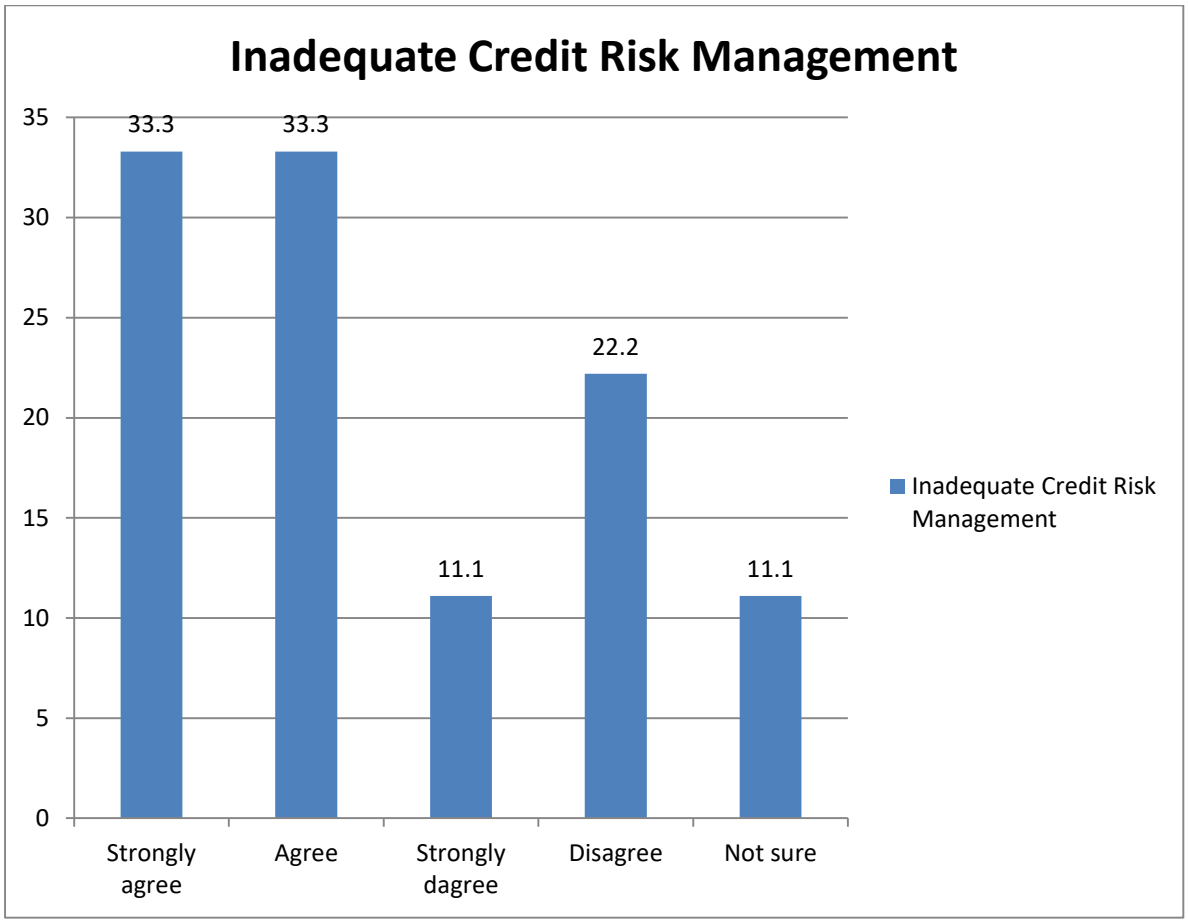


Figure 4.7 Inadequate Credit risk management

Source: Primary data

From the study findings, 33.3% strongly agreed, 33.3% agreed, 11.1% strongly disagreed, 22.2% disagreed while 11.1% were not sure if inadequate credit risk management affects non-performing loans.

4.6.5 Mechanism to Reduce Non-performing Loans

The study sought to establish if there are any mechanisms in place to reduce non-performing loans at the bank. The findings are presented in the following table.

Table 4.14: Mechanisms to reduce NPLs (N=97)

	Frequency	**Frequency**
Yes	97	100%
Total	97	100%

Source: Primary data

All respondents (100%) indicated that there are mechanisms in place to reduce the level on non-performing loans at the branch.

Primary data obtained from interviews with management revealed that the major contributor of the bank's non-performing loan book are farmers from the bank's agri-business portfolio. As of 31 December 2021, the bank had advanced a total of $250.7m to the agriculture sector representing 24% of the total loan book (FBC Financial Report, 2021). Most of the borrowers from this sector relies heavily from natural rainfall hence their productions are prone to droughts and climate change. Whenever there is drought in the country as witnessed in previous seasons, their crops and subsequently their yields are affected meaning they will not be able to meet their obligations at the bank. During the interviews, management alluded that inadequate credit risk management systems results in an increase of non-performing loans and resultantly bad debts. Data from interviews revealed inadequate credit risk systems as one of the major causes of non-performing loans at the bank emanating from concentrated lending whereby the bank excessively lent to one sector (agriculture sector). It was also revealed that enhanced credit risk management compels the bank to give credit to only those clients with the real capacity or ability to repay the loan and also avoiding excessive lending to one group of clients in the same sector thereby resulting in a reduction of the non-performing loan book. Findings from interviews also revealed that the bank has put effective strategies to curb the increase of non-performing loans as well as to reduce the current non-performing loan book. The strategies include intensive loan recovery strategies and liquidating the securities offered on loan applications.

4.7 Objective 4: To assess the effect of technology and innovative systems on CRM

The fourth secondary objective was concerned with assessing the effect of employing technology and innovative systems on credit risk management. To attain this objective the researcher sought perceptions of the respondents on the effectiveness of the Fusion OPICS on risk management. Fusion OPICS is the latest Credit Risk Management solution being implemented by FBC Bank. The respondents were prompted to ascertain their views on the effectiveness of this recently introduced credit risk management system. The effect of this system was measured with respect to its contribution in loan pricing, credit rationing, setting credit limits, and credit rating. The respondents were asked to rank the statements meant to measure the impact of the newly introduced credit risk management system on loan pricing, credit rationing, setting credit limits, and credit rating.

The range for possible responses was 1 = Strongly Disagree; 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree. The scores of disagreeing have been taken to represent a variable which had a mean score of 0 to below 2.5 on the continuous Likert scale. The scores of 'being neutral or indifferent' have been taken to represent a variable with a mean score of 2.5 to 3.4 on the continuous Likert scale: and the scores of notable agreeableness have been taken to represent a variable which had a mean score of 3.5 to 5.0 on a continuous Likert scale. A standard deviation of greater than 0.9 implies a significant difference on the impact of the variable among respondents, while a standard deviation of less than 0.9 indicates the commonalities of views expressed by respondents on the measured variable (Odhiambo 2015). Means and standard deviations were used to examine the impact of technology and innovation (Fusion OPICS) on credit risk management. Means and standard deviations were computed, and Table 4.15 below presents the mean scores and related ranks in order of importance. The study started by assessing the effect of credit management systems on loan pricing.

4.7.1 Loan Pricing

Loan pricing is an important aspect when issuing credit to customers and clients should be awarded correctly priced loans. Respondents were asked whether Fusion OPICS currently in use for pricing of loans has helped to reduce credit risk. The means and standards deviations were computed thereby enabling the researcher to determine whether the newly introduced system has positively contributed towards credit risk management.

Table 4.15: Has OPICS improved Loan Pricing (N = 97)

Statement	N	Mean	Std Deviation
The introduction of Fusion OPICS has greatly improved loan pricing procedures.	97	4.30	0.011
The newly introduced system has been instrumental in minimising loan pricing reworks and costly mistakes.	97	4.80	0.079
Since the introduction of the Fusion OPICS, loan authorisations decisions time has been greatly reduced.	97	4.77	0.026
Loan pricing procedures are changed every time a new Credit Risk Management system is implemented.	97	4.61	0.040
Loan pricing is now system generated.	97	4.47	0.054
Overall mean score	**97**	**4.59**	**0.04**

Source: Author's compilation from IBM SPSS Statistic version 25

Study findings shown in Table 4.15 above reveal that most of the respondents strongly perceived that the introduction of Fusion OPICS at FBC Bank has been critical for minimising credit risk through improved loan pricing procedures. This is evidenced by the overall mean score of 4.59 and a corresponding standard deviation of 0.04. This standard deviation implies that the majority of respondents shared the common view that the newly introduced credit risk management system (Fusion OPICS) has improved loan pricing.

According to study results it can been deduced that the introduction of Fusion OPICS has greatly improved loan pricing procedures. This is evidenced by a mean score of 4.30 which implies that the majority of respondents agreed with the notion that the newly introduced credit risk management system has enormously improved loan pricing procedures. The corresponding standard deviation is 0.011 which implies that the majority of respondents held the common view that loan pricing was significant improved by the new system.

Study results also reveal that the majority of respondents strongly agreed with the with the assertion that the newly introduced system has been instrumental in minimising loan pricing reworks and costly mistakes. This is evidenced by a mean score of 4.8 and a corresponding

standard deviation of 0.079 which entails that the overwhelming majority of respondents held the similar notion that newly introduced system has been instrumental in minimising loan pricing reworks and costly mistakes. There was also a general consensus amongst the respondents which was supported by the majority that since the introduction of the Fusion OPICS, loan authorisations decisions time at FBC Bank has been greatly reduced, thereby ensuring effective credit risk management. This is supported by a mean score of 4.77 and a standard deviation of 0.026. This result implies that the majority of the respondents shared the similar view that the decision-making process in issuance of loans has been optimised by the new credit risk management system. The impact of Fusion OPICS on credit risk management was felt upon its introduction. This is evidenced by a mean score of 4.61 where the majority of respondents indicated that they have noticed a significant change in loan pricing procedures upon the introduction of the credit risk management system. The study results also showed that loan pricing is now system generated, with mean score of 4.47 and a corresponding standard deviation of 0.054.

The new credit risk management system has enabled FBC Bank to manage its credit risk by charging a risk premium that is proportional to the client's risk profile. This is intended to ensure that the bank recovers at least a portion of the loan before the counterparty defaults. Raghavan (2013) has proposed that in order for the bank to develop a risk profile for usage on counterparties, historical data on default losses must be collated, which is where ICTs come in. Building historical loan data requires a lot of data processing and identifying the history that is most similar to the current situation can be difficult at times. With only one click of a mouse, Fusion OPICS can make this procedure more simpler and much faster to handle. As a result, technology facilitate the processing of all acquired data, and management information systems may subsequently be utilized to generate performance reports and forecast future performance (Laudon & Laudon, 2019).

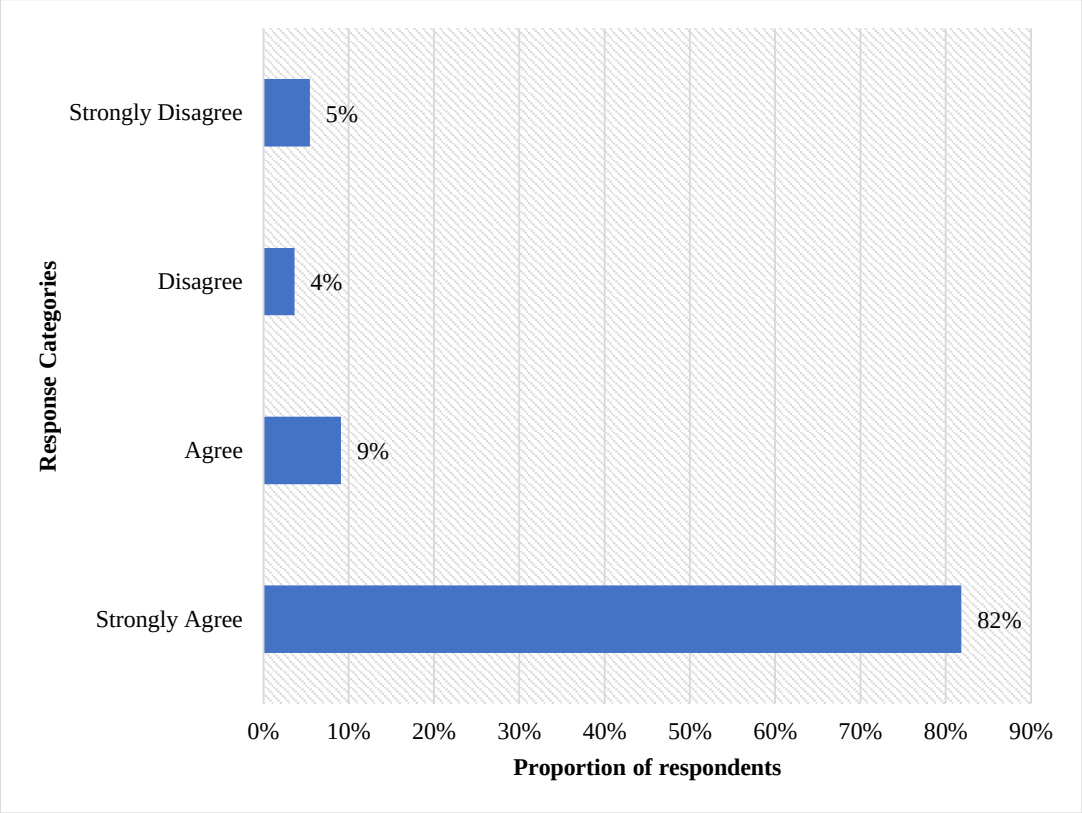
4.7.2 Credit Rationing and limits

The other objective of the study was to ascertain the role played by technology on enforcing credit rationing and limits at FBC Bank. Credit rationing is one of the most important procedures of credit risk management and is generally done by banks to prevent concentration risk or when the market is experiencing liquidity issues. To decrease credit exposure, banks typically impose credit limitations (Jorion, 2003), which include customer restrictions, industry

limits, trader limits, rate limits, and amount limits. The researcher prompted the respondents to highlight the effectiveness of technology on enforcement of credit limits.

4.7.3 Effectiveness of Fusion OPICS on credit rationing

Figure 4.8: Credit Information Systems are efficient in detecting potential inter party relationships.



Source: Author's compilation from IBM SPSS Statistic version 25

Credit risk management systems like Fusion OPICS are also employed to identify and curtail concentration risk emanating from interparty relationships. When asked how successful the Credit Information System introduced at FBC bank has been in detecting possible interparty relations, 82% of respondents strongly agreed, while 9% agreed, with 5% strongly disagreeing and 4% disagreeing. This result implies that 91% of the respondents viewed that by employing technological innovation FBC Bank has been able to detect potential inter party relationships. The respondents were further permitted to raise their concerns on the current credit risk management and to offer recommendations on the required modifications. This was an open-ended question and some of the critical issues that were raised by the respondents were that technology should be fully automated in order to avoid some system overrides or manual

(human) interventions. Respondents also highlighted that to ensure effective credit risk management all clients critical or mandatory information should be captured correctly in the database.

Interparty relationships make it harder to discern whether a consumer has exceeded a credit limit, according to Jorion (2013). As a result, the intelligent systems discovered by Laudon and Laudon (2019) that are capable of discovering relationships that may fail if the data is totally missing from the system. If the limit is reached, Zhao (2017) agrees that a loan application should be rejected regardless of one's capacity to repay the loan. As a result, this can only be accomplished if the bank's credit risk management is completely automated, and all data is stored in a database.

4.7.4 Efficacy of system-based credit limits

The researcher prompted the participants to respond by highlighting their agreeableness to the following statements on credit rationing and limits. The results of this inquiry are represented in form of means and standard deviations in Table 4.16 below.

Table 4.16: The effectiveness of Fusion OPICS on credit limits (N = 97)

Statement on credit rationing and limits	N	Mean	Std Deviation
Fusion OPICS helps provide management with real time breached limits information.	97	4.02	0.786
All credit limits are soft, and the CRM system enables real time authorisation.	97	4.05	0.235
The credit risk management system is customised to suit the bank's authorisation workflows	97	4.35	0.215
Without technology, it is very difficult to enforce limits.	97	4.82	0.025
Overall mean score	**97**	**4.31**	**0.34**

Source: Author's compilation from IBM SPSS Statistic version 25

Out of the 97 respondents, 76.4% strongly agreed that without the credit risk management system (OPICS) it will be very difficult to enforce credit limits, while 18.2% of respondents

agreed and the remainder, 5.5% were either not sure or disagreed with the notion. The lowest standard deviation of 0.025 was obtained showing that the responses were very close to each other in agreeing with the notion after obtaining a mean of 4.82. Thus, the respondents shared a similar strong view that without integrating technology and innovation in the bank's credit risk management framework , it is very difficult to enforce credit limits. From this result it can therefore be clearly inferred that the newly introduced system (Fusion OPICS) has managed to ensure limits enforcement without human (manual) intervention.

As evident in Table 4.16 above, the respondents agreed that the Credit Risk Management system provide real time breached limits information, and this systems can therefore be modified, and tailor made to suit the bank's authorisation workflows with mean scores of 4.02 and 4.35 respectively. Their corresponding standard deviations (0.786 and 0.215 respectively) imply that there was no significant divergence in the way participants responded to the questions.

The findings also show that the majority of respondents agreed with the assertion that all credit limits are soft, and the CRM system at FBC had enabled real time credit authorisation. This is evidenced by a mean score of 4.05 and a corresponding standard deviation of 0.235.

It can therefore be observed that the responses were mostly positively skewed, which confirm that respondents were in agreement with notion that system-based credit limits are effective.

4.7.5 The impact of technology on credit rating and scoring

The researcher also sought to ascertain the effect of credit risk management systems on credit rating and scoring. To achieve this objective several statements were posed on respondents which prompted their perceptions concerning the effect of technology on credit rating. Some of these statements which required response from the participants included whether the credit risk management system has been crucial in rating credit models. The researcher also prompted respondents to indicate their views on whether it is impossible to implement current credit rating models without an information system. The results of the inquiry are shown in Table 4 below.

When asked about whether the credit risk management system plays a crucial role in the rating credit models, 73% of respondents strongly perceived that the OPICS system is critical in rating credit models while 20% agreed and 7% were not sure. Two thirds of the respondents, 64% strongly agreed with the assertion that rating customers and collateral through the CRM system

does not require a lot of mental effort. This was followed by 35% who agreed with notion and only 1 respondent who was not sure. Furthermore, above three quarters of the respondents strongly agreed with the notion that the rating models currently in use are sophisticated and cannot be done without an information systems, while 20% agreed, 4% disagreed with the assertion. The overwhelming majority of respondents, 100% supported the view that customer credit risk profiles that are generated by computer systems are effective. Findings shown in Table 4.17 also showed that 96% of respondents trust the ratings and risk profiles produced by the bank's credit risk management system in place.

Table 4.17: The effect of technology on credit rating and scoring (N = 97)

Credit Rating Models	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The credit risk management system plays a crucial role in the rating credit models	73%	20%	7%	0	0
Rating customers and collateral through the CRM system does not require a lot of mental effort.	64%	35%	2%	0	0
The rating models currently in use are sophisticated and cannot be done without an information systems	76%	20%	0	2%	2%
Customer credit risk profiles that are generated by computer systems are effective.	20%	80%	0	0	0
I trust the Ratings and risk profiles produced by our Information System.	87%	9%	4%	0	0

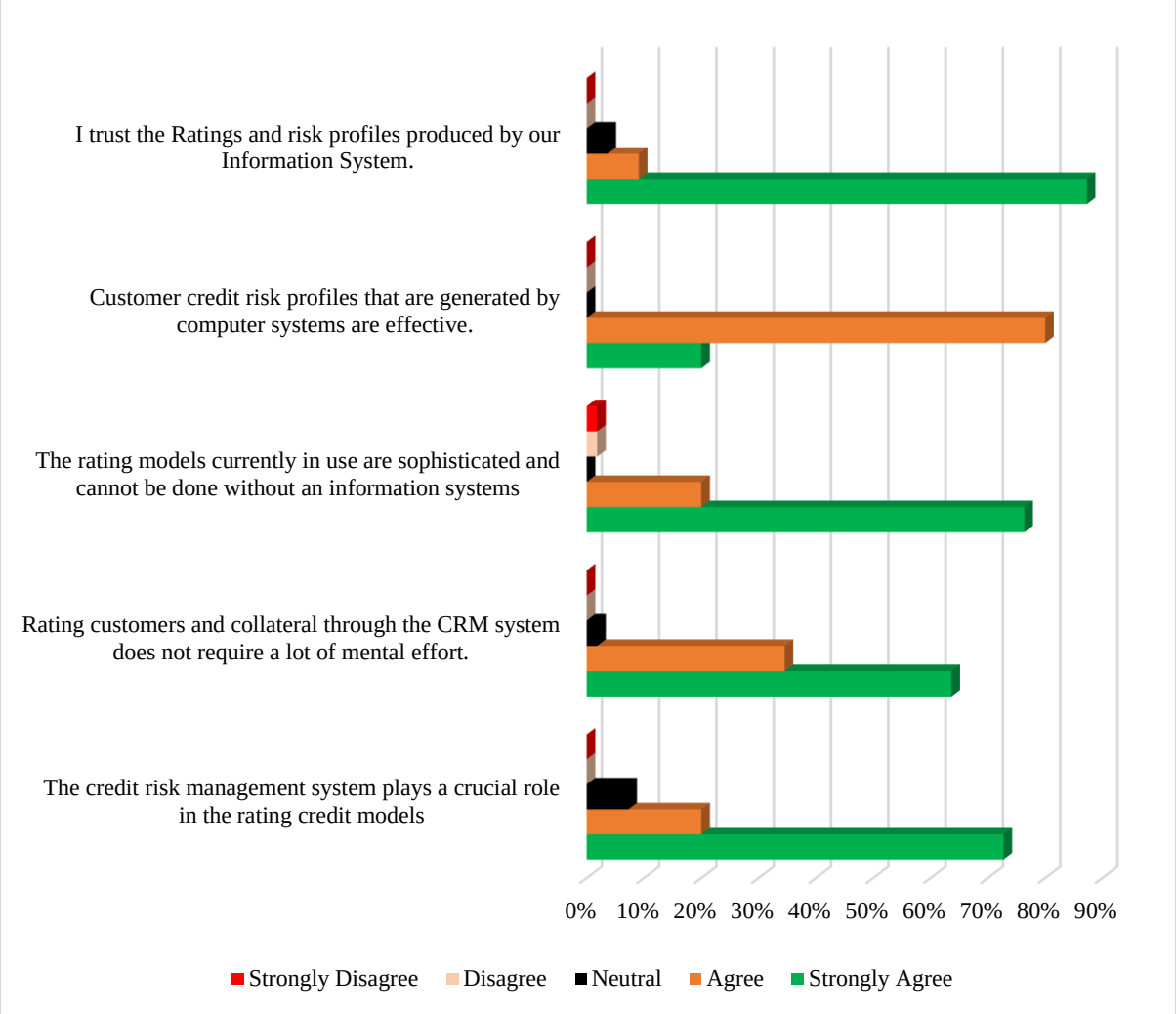
Source: Author's compilation from IBM SPSS Statistic version 25

Overally, it can be observed from the frequency distribution table that respondents' views were positively skewed in favour of technology, implying that the bank's credit risk management system is perceived to be very effective in credit scoring and rating applicants.

The same results are shown in form of a clustered bar chart below. It can be clearly visualised that the views were skewed in favour of technology. It can therefore be inferred that the credit

risk management system being utilised by FBC bank has been crucial in rating credit models, rating customers and collateral. It can also be clearly deduced from the findings shown in the clustered bar chart that the majority of respondents trust the ratings and credit profiles generated from the credit risk management system in place.

Figure 4.9: The role of technology in credit rating and scoring



Source: Author's compilation from IBM SPSS Statistic version 25

From the study results it can be safely inferred that respondents agreed that credit risk management system (Fusion OPICS) is crucial in credit rating and for rating customers' credit worthiness. ICTs, according to Diniz *et al.* (2008), are critical for adopting and updating in-house credit scoring models.

4.8 The impact of CRM on level of NPLs

The study intended to establish the relationship between credit risk management and the level of non-performing loans and therefore linear regression analysis model was used to determine the nature of this relationship. The model is expressed as follows;

$$NPL = \beta_0 + \beta_1 X$$

Where; NPL = Level of non-performing loans (the dependent variable)

X = Credit risk management practices adopted by FBC Bank (the independent variable)

β_0 = Constant term or intercept term

β_1 = Coefficient to be estimated

The model implies that a variation in NPL (level of non-performing loans) is dependent on variations in X (different credit risk management practices adopted by FBC Bank).

Data were edited for uniformity, accuracy, consistency and completeness and then arranged to enable coding and tabulation before statistical analysis. Statistical package for social sciences (SPSS) was used to analyze the data. Graphs were essential for understanding the relationship between variables as they provided the means for visual inspection of data that a list of values from the variables would not. Test of significance was carried out using T-test to determine the extent of relationship among study variables. This formed the basis for conclusions to the study.

4.8.1 Regression analysis

Regression analysis relating to various credit management practices adopted by FBC Bank were quantified using statistical package for social sciences (SPSS) and regressed against data on non-performing loans obtained from the banks' annual reports. The result from the regression analysis of non-performing loans in relation to various credit risk management adopted by commercial banks was presented in the table below;

Table 4.18: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error the Estimate
1	0.918	0.847	0.868	0.46505

Source: Author's compilation from IBM SPSS Statistic version 25

Adjusted R is called the coefficient of determination and indicates how non-performing loans of FBC Bank varied with credit risk management practices. From the data, the value of adjusted R square is 0.868. This implies that, there was a variation of 86.8% of non-performing loans of FBC Bank varied with credit risk management practices. R is correlation coefficient and highlights the relationship between non-performing loans of FBC Bank and credit risk management practices. From the finding there was strong relationship between non-performing loans of FBC Bank and credit risk management practices.

Table 4.19: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.629	0.528		4.977	0.000
	Credit Risk Management Practices	-0.460	0.247	-0.308	-1.860	0.000

Source: Author's compilation from IBM SPSS Statistic version 25

The model is expressed as follows;

$$NPL = \beta_0 + \beta_1 X$$

$$NPL = 2.629 - 0.460X$$

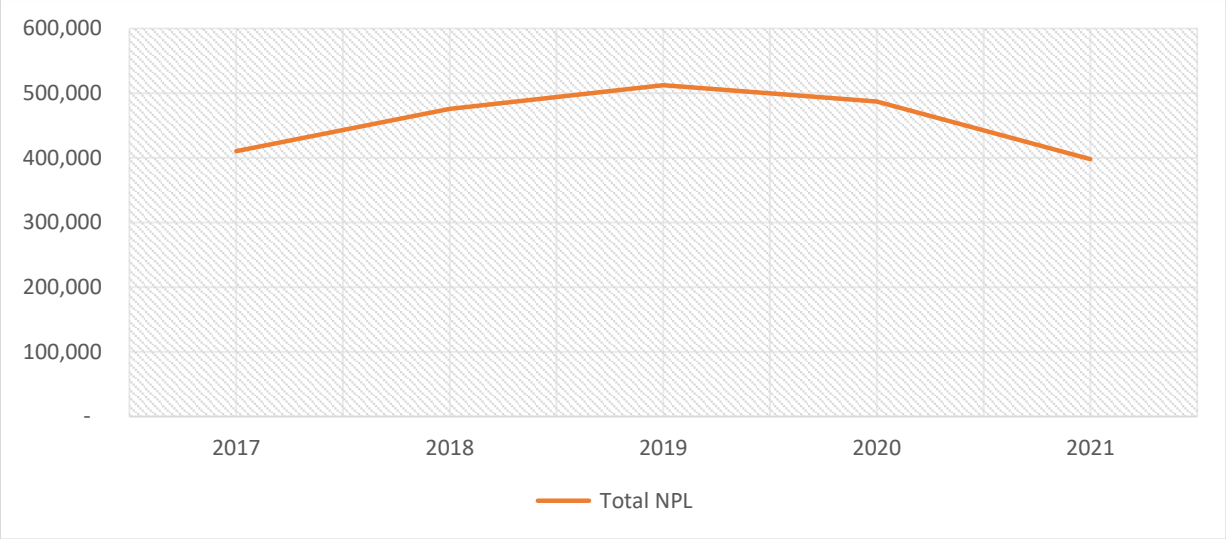
Where; NPL = Level of non-performing loans (the dependent variable)

X = Credit risk management practices adopted by FBC Bank (the independent variable)

From the above regression model, holding credit risk management practices to a constant zero; non-performing loans for FBNC Bank would be at 2.629. It's established that a unit increase in credit risk management practice would lead to decrease in non-performing loans (NPLs) by a factor of 0.460. This clearly shows that there is an inverse (negative) relationship between non-performing loans for commercial banks and credit risk management practices.

The analysis of primary data gathered and secondary data from audited annual financial statements revealed that the total non-performing loans for FBC bank are inversely related to credit risk management practices. This corresponds to the results from the regression analysis

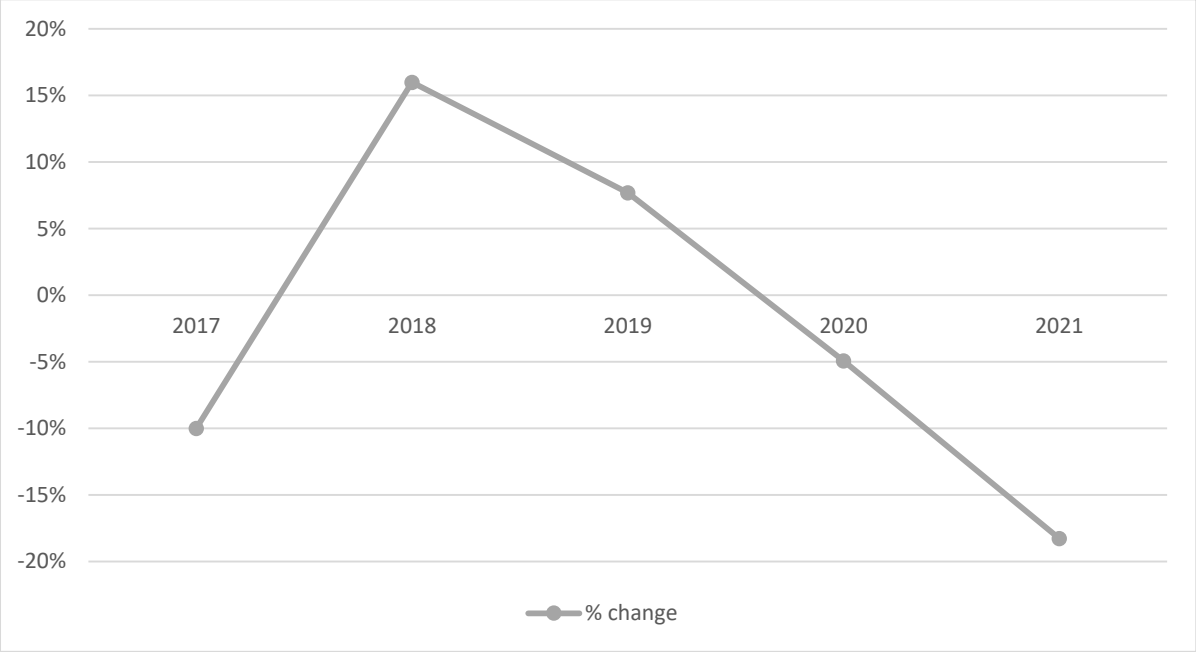
relating to various credit management practices adopted by FBC Bank and the level of non-performing loans.



Source: Author's compilation from IBM SPSS Statistic version 25

Figure 4.10: Total Non-Performing Loans

From the above figure, there was an increase in the level of total non-performing loans for FBC Bank for a three year period between 2017 and year 2019. Credit appraisal monitoring standards were required to reverse the trend, hence high level of nonperforming loans implied low usage of credit risk management practices and low level of non-performing loans implied high usage of credit risk management practices.



Source: Author's compilation from IBM SPSS Statistic version 25

Figure 4.11: Percentage Changes in Level of Non- Performing Loans

From the above figure, there was an increase in the percentage change in level of nonperforming loans in year between 2017 and year 2019. This was attributed to enhanced credit appraisal standards adopted by commercial banks in year 2019. The implication was also that there is a negative relationship between non-performing loans for FBC Bank and credit risk management practices. The credit assessment methods applied by commercial bank could influence their level of total non-performing loans.

4.9 Analysis of the Research Findings

The study findings established that FBC bank had a formal written credit policy manual reviewed on various times, annually and bi-annually. These findings are consistent with the findings of Mabvure T et al (2012:09) who examined the causes of non-performing loans in commercial banks in Zimbabwe. Their findings revealed that FBC bank had a credit policy manual reviewed from time to time.

From the research conducted, it was evident that non-performing loans are a problem at FBC bank and were on an upward trend since the inception of the multicurrency regime in 2009. These non-performing loans were mainly caused by lenient credit terms, poor credit policy and poor credit monitoring. Inadequate risk management and integrity of the borrower also contributed to the high levels of non-performing loans at the bank. These findings were consistent with the finds of Mathra (2007) who identified inadequate credit policy and poor credit risk management as the main causes of non-performing loans at National Bank of Kenya. The bank has however put mechanisms to reduce the non-performing loans, and these involve intensive loan recovery strategies and liquidating loan securities held.

Credit risk management practices were found to have an impact on the level of non-performing loans at the bank. Credit limits and ensuring adequate controls over credit risk had the most impact on non-performing loans at the bank. The majority of the respondents agreed that these credit risk management practices at FBC bank were effective and helped to contain the non-performing loan book at the bank. However, though they alluded to the effectiveness of these practices, they also strongly agreed that these systems were inadequate and more still needs to be done in this area to improve the systems.

It was strongly agreed that a relationship exists between credit risk management and non-performing loans at the bank. These findings were consistent with that of Oretha (2012:34) who find out that there is a positive relationship between credit risk management practices and financial performance. This, in other words translate to a negative relationship between credit risk management practices and non-performing loans. If credit risk management systems are weak, non-performing loans will be high therefore a high level of non-performing loans is an indication of weak credit risk management practices. From the research findings, it was evident that credit applications were not thoroughly assessed before final approval as indicated by the majority of the respondents who disagreed with the assertion that credit applications were thoroughly assessed before final approval.

4.10 Chapter Summary

The chapter focused on research findings. Both primary and secondary data findings were highlighted in the chapter. In some instances, the researcher used own judgment to come up with logical deductions so as to clarify certain responses from respondents. The study findings established that FBC bank has a formal written credit policy manual reviewed on various times. The study also established that non-performing loans are a problem at FBC bank with the main cause being inadequate credit risk management practices. It was also established that there is a strong relationship between credit risk management systems at the bank and its level of non-performing loans. This has prompted management to review its credit management systems with a view to eradicate the non-performing loans book.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary, conclusions and the recommendations made on the on the analysis of the impact of credit risk management practices on non-performing loans at FBC Bank from 2009 to 2021.

5.1 Summary of findings

The study set out to evaluate the impact of credit risk management practices on non-performing loans at FBC Bank from 2009 to 2021. The motive of the study was derived from a significant increase of bank failures and financial distress in Zimbabwe since the inception of the multiple currency system in 2009. Non-performing loans were cited as the major cause of these bank failures in Zimbabwe. During the same period, Zimbabwean banks faced an upward surge of non-performing loans rising from 1.8 % in 2009 to 15.92 % as at 31 December 2013 and a number of banks were closed. Theoretical evidence on credit risk management practices and non-performing loans which was done by various authors and researchers was unveiled. Basically they were describing what is credit risk management and non-performing loans, their causes and impacts, the relationship between the two, importance of credit risk management and ways to manage non-performing loans.

Empirical evidence highlighted that credit risk still remains the single major cause of bank failures. Evidence suggested that in most situations, lack of adequate credit policy guidelines, poor credit risk management practices, poor loan assessment and poor monitoring and evaluation systems have led to high levels on non-performing loans in banks. This has resulted in the collapse of many financial institutions especially in Zimbabwe.

Evidence collected showed that the newly introduced credit risk management system at Stanbic significantly assist the bank in the pricing of its loans. Study findings reveal that most of the respondents strongly perceived that the introduction of Fusion OPICS at Stanbic Bank has been critical for minimising credit risk through improved loan pricing procedures. This is evidenced by the overall mean score of 4.59 and a corresponding standard deviation of 0.04. This standard deviation implies that the majority of respondents shared the common view that the newly

introduced credit risk management system (Fusion OPICS) has improved loan pricing. According to study results it can been deduced that the introduction of Fusion OPICS has greatly improved loan pricing procedures. This is evidenced by a mean score of 4.30 which implies that the majority of respondents agreed with the notion that the newly introduced credit risk management system has enormously improved loan pricing procedures. The corresponding standard deviation is 0.011 which implies that the majority of respondents held the common view that loan pricing was significant improved by the new system. Study results also reveal that the majority of respondents strongly agreed with the with the assertion that the newly introduced system has been instrumental in minimising loan pricing reworks and costly mistakes. This is evidenced by a mean score of 4.8 and a corresponding standard deviation of 0.079 which entails that the overwhelming majority of respondents held the similar notion that newly introduced system has been instrumental in minimising loan pricing reworks and costly mistakes. There was also a general consensus amongst the respondents which was supported by the majority that since the introduction of the Fusion OPICS, loan authorisations decisions time at Stanbic Bank has been greatly reduced, thereby ensuring effective credit risk management. This is supported by a mean score of 4.77 and a standard deviation of 0.026. This result implies that the majority of the respondents shared the similar view that the decision-making process in issuance of loans has been optimised by the new credit risk management system. The impact of Fusion OPICS on credit risk management was felt upon its introduction. This is evidenced by a mean score of 4.61 where the majority of respondents indicated that they have noticed a significant change in loan pricing procedures upon the introduction of the credit risk management system. The study results also showed that loan pricing is now system generated, with mean score of 4.47 and a corresponding standard deviation of 0.054. The new credit risk management system has enabled Stanbic Bank to manage its credit risk by charging a risk premium that is proportional to the client's risk profile. This is intended to ensure that the bank recovers at least a portion of the loan before the counterparty defaults. Raghavan (2013) has proposed that in order for the bank to develop a risk profile for usage on counterparties, historical data on default losses must be collated, which is where ICTs come in. Building historical loan data requires a lot of data processing and identifying the history that is most similar to the current situation can be difficult at times. With only one click of a mouse, Fusion OPICS can make this procedure more simpler and much faster to handle. As a result, technology facilitate the processing of all acquired data, and management information systems may subsequently be utilized to generate performance reports and forecast future performance (Laudon & Laudon, 2019).

Technology and innovation have a favourable influence when managing concentration risk, which produces credit risk, according to the evidence acquired throughout the research. This is only possible if all of the data is correct and stored in the system. As a result, it's critical that users have faith in their Information Systems and the data they contain. Expert systems, such as fuzzy logic and generic algorithms, may be used to establish inter-party interactions, inter-group relationships, and in some situations, interpret partial information and fill it if it is lacking, according to the research. In order to decrease credit risk, banks might employ expect systems to identify and analyse inter-party interactions when determining party credit limits.

The other objective of the study was to ascertain the role played by technology on enforcing credit rationing and limits at Stanbic Bank. Credit rationing is one of the most important procedures of credit risk management and is generally done by banks to prevent concentration risk or when the market is experiencing liquidity issues. To decrease credit exposure, banks typically impose credit limitations (Jorion, 2003), which include customer restrictions, industry limits, trader limits, rate limits, and amount limits. The researcher prompted the respondents to highlight the effectiveness of technology on enforcement of credit limits. Credit risk management systems like Fusion OPICS are also employed to identify and curtail concentration risk emanating from interparty relationships. When asked how successful the Credit Information System introduced at Stanbic bank has been in detecting possible interparty relations, 82% of respondents strongly agreed, while 9% agreed, with 5% strongly disagreeing and 4% disagreeing. This result implies that 91% of the respondents viewed that by employing technological innovation Stanbic Bank has been able to detect potential inter party relationships. The respondents were further permitted to raise their concerns on the current credit risk management and to offer recommendations on the required modifications. This was an open-ended question and some of the critical issues that were raised by the respondents were that technology should be fully automated in order to avoid some system overrides or manual (human) interventions. Respondents also highlighted that to ensure effective credit risk management all clients critical or mandatory information should be captured correctly in the database.

Interparty relationships make it harder to discern whether a consumer has exceeded a credit limit, according to Jorion (2013). As a result, the intelligent systems discovered by Laudon and Laudon (2019) that are capable of discovering relationships that may fail if the data is totally missing from the system. If the limit is reached, Zhao (2017) agrees that a loan application should be rejected regardless of one's capacity to repay the loan. As a result, this can only be

accomplished if the bank's credit risk management is completely automated, and all data is stored in a database.

The researcher also sought to ascertain the effect of credit risk management systems on credit rating and scoring. To achieve this objective several statements were posed on respondents which prompted their perceptions concerning the effect of technology on credit rating. Some of these statements which required response from the participants included whether the credit risk management system has been crucial in rating credit models. The researcher also prompted respondents to indicate their views on whether it is impossible to implement current credit rating models without an information system. When asked about whether the credit risk management system plays a crucial role in the rating credit models, 40 (73%) strongly perceived that the OPICS system is critical in rating credit models while 20% agreed and 7% were not sure. Two thirds of the respondents, 64% strongly agreed with the assertion that rating customers and collateral through the CRM system does not require a lot of mental effort. This was followed by 35% who agreed with notion and only 1 respondent who was not sure. Furthermore, above three quarters of the respondents strongly agreed with the notion that the rating models currently in use are sophisticated and cannot be done without an information systems, while 20% agreed, 4% disagreed with the assertion. The overwhelming majority of respondents, 100% supported the view that customer credit risk profiles that are generated by computer systems are effective. Findings shown in Table 4.5 also showed that 96% of respondents trust the ratings and risk profiles produced by the bank’s credit risk management system in place.

Overally, it can be observed from the frequency distribution table that respondents’ views were positively skewed in favour of technology, implying that the bank’s credit risk management system is perceived to be very effective in credit scoring and rating applicants.

5.2 Conclusions

After this research was carried out, the following conclusions were drawn;

Though the bank has got a formal written credit policy manual which reviewed from time to time, non-performing loans are a problem as indicated by 100% of the respondents who concurred.

The major causes of these non-performing loans being lenient credit terms, poor credit monitoring and poor credit policy as indicated by 77.8% of the respondents who respondent

'Yes' on each factor. It was further concluded that the high levels of non-performing loans the bank are now incapacitating the bank's lending ability and affecting its profitability.

There is a negative relationship between credit risk management and non-performing loans at the bank. 66.7% of the respondents strongly agreed to the existence of this relationship at the bank. Weak credit risk management results in high levels of non-performing loans. The high levels of non-performing loans at FBC Bank is an indication of inadequate credit risk management systems.

Credit risk management practises with greater impact on non-performing loans at FBC Bank are use of credit limits and adequate controls over credit risk (88.9%). Sound credit granting process and the establishment of appropriate credit risk environment were sighted as the second practices with high impact on non-performing loans. 55.6% of the respondents indicated credit insurance while 44.4% indicated collateral security.

The credit applications were not thoroughly assessed before final approval as indicated by 44.5% of the respondents who disagreed that they were assessed thoroughly. This resulted in some applications without capacity to repay being approved and subsequently these clients failed to service their loan obligations. Mechanisms are however in place at the bank to reduce the high levels of non-performing loans indicated by 100% of the respondents.

The study was successful because the researcher was able to get answers for all the research objectives. The researcher was also able to able to answer the research topic and bring out the impact of credit risk management practices on non-performing loans at FBC Bank from 2009 to 2021.

5.3 Methodological Contribution

Investigating impact of non-performing loans (NPLs) on involves studying two separate fields which are Credit Risk management (CRM) and Non-Performing Loans (NPLs). In order to fully understand and evaluate the impact of CRM on NPLs there is need to analyse the known benefits of CRM and then evaluate whether these are the same when managing NPLs. The other dimension is understanding the credit risk management process and look for where ICT can come in to alleviate some of the inherent risks or shortcomings of the process involved. Thus, it must be clear from the beginning which approach is being taken. Another observation made was reliability of the sub questions which should be done during the pilot study. The pilot study should include two or more banks if one is studying more than five banks. Doing this at the pilot testing phase, enables all the questions to be tested and then considered during

statistical analysis. To speed up data analysis, the questions must be group per concept or variable being tested. Variable need to be drawn from the objectives of the research, this simplifies data analysis and conclusions.

5.4 Recommendations

5.4.1 Policy Recommendations

The study findings established that inadequate credit risk management systems (lenient credit terms, poor credit policy and poor credit monitoring) at FBC Bank are the major causes of non-performing loans. The researcher therefore recommends that the bank needs to enhance its credit risk management systems and avoid concentrated lending to one group of clients. The bank must however spread its loan book to different sectors of the economy so as to spread the credit risk.

The researcher also recommends thorough assessments of credit applications to ensure that loans will only be granted if the borrower proves that they have the capacity to repay the loan. There is also need for enhanced credit monitoring through adopting relationship management approach at the bank to ensure that borrowed funds are used the intended purpose.

The study further recommends the use of credit limits, credit insurance, collateral security and sound credit granting process in order to reduce and curb non-performing loans at the bank. Intensive loan recovery as well as liquidating securities held is what is needed to be done in order to redeem the non-performing loan book.

5.4.2 General recommendations

It is prerogative for FBC bank to ensure that they acquire as much as more information they can get from their clients whenever they are issuing out loans to clients to counteract the effect of information asymmetry. The Bank can push for the re – establishment of the National Bureau of Commerce which will be tracking history of the borrowers so that those FBC Bank clients who have over borrowed from other financial can be quickly identified and excluded when the bank is offering loans.

FBC bank need to institute a strong credit risk management system that can efficiently identify bankable borrowers and a system that can monitor their performance after the loan is granted.

In addition, the regulatory framework should support and make sure banks to have strong credit risk management practice. This can be done through strengthening the internal risk management system to assist the identification, measurement and monitoring of credit risk as well as directing the supervision focus towards credit risk.

5.5 Limitations of the study

The finding of this research cannot be generalised because the research only focussed on FBC Bank. Each bank's credit risk management framework differ, implying that study results cannot be attributed to big local banks such as (CBZ) and small banks such as Metbank (Gono, 2012). The results cannot be generalised also for regional banks, Ecobank owned by the pan-African bank and Cabs, Old Mutual Zimbabwe and local banks such as CBZ, ZB Bank, Metbank and NBS.

5.6 Suggestions for Further Studies

This study concentrated on impact of credit risk management practices on nonperforming loans at FBC Bank from 2009 to 2021. This study recommends that the study be extended to all financial institutions in Zimbabwe based on the high levels of non-performing loans in the sector and the number of bank closures during. Further studies should be focused on the credit risk management strategies that can be used by financial institutions to combat non-performing loans.

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APPENDIX A: QUESTIONNAIRE

I am a student at Bindura University of Science Education carrying out a research study entitled **The Impact of Credit Risk Management practices on Non-performing Loans at FBC Bank from 2009-2021**.

I am therefore appealing for your time to complete this questionnaire. The findings will be treated with confidentiality and will only be used for the purposes of this study. For any clarifications regarding this study, do not hesitate to call me on the following mobile number:
Cell: +263 78 452 4555
Email address: ruvanina691@gmail.com
Thank you in advance for your cooperation

Yours Sincerely

Ruvarashe

Please complete by putting a tick in the appropriate box or writing in the spaces provided for structured questions.

SECTION A: BACKGROUND INFORMATION

1. Gender
   Male ☐ Female ☐

1. Highest academic qualifications attained
   PhD ☐ Masters ☐ Degree ☐ Diploma ☐ Others specify…….

2. Time spent with the organization
   1 ≤ 5 years ☐ 6 ≤ 10years ☐ 11years and above ☐

3. Position held in the organization……

4. Duration at the current post……

5. Kindly indicate your age

- 18-25 years [ ]
- 26-30 years [ ]
- 31-35 years [ ]
- 36-40 years [ ]
- 41-45 years [ ]
- 46-50 years [ ]
- 51-55 years [ ]
- 56-60 years [ ]
- 60 years and above [ ]

SECTION B: CREDIT RISK MANAGEMENT AND NON-PERFORMING LOANS

B1. Does your bank have a formal written credit policy manual? And how often is it reviewed?

- Yes [ ]
- No [ ]

If yes explain how often it is reviewed.

Monthly [ ] Quarterly [ ]

Semi –Annually [ ] Annually [ ]

Others (specify) [ ] ----------

B2. Do you think non-performing loans are a problem?

- Yes [ ]
- No [ ]

B3. If yes explain in brief their effects.

……

……

B4. In your opinion to what extent do the factors influencing non-performing loans? Use a scale of 1-5 were 1 = strongly agree and 5 = not sure

	Strongly agree	Agree	Strongly disgrace	Disagree	Not sure
Integrity of borrower					
Lenient credit terms					
Insider loans					
Poor credit policy					
Poor credit monitoring					
Inadequate risk management					
Lack of collateral security					

B5. Is there a relationship between credit risk management and non-performing loans?

- Strongly agree [ ]
- Agree [ ]
- Strongly disagree [ ]
- Disagree [ ]
- Not sure [ ]

B6. To what extent do the following credit risk management practices have an impact on non-performing loans? Rate using a scale of 1-5 were 1 = strongly agree and 5 = not sure

	Strongly agree	Agree	Strongly disagree	Disagre e	Not sure
Sound credit granting process					
Use of credit limits					
Credit insurance					
Collateral security					
Establishment of appropriate credit risk environment					
Ensuring adequate controls over credit risk					
Lack of collateral security					

B7. Are the credit risk management systems at CBZ Bank effective?

- Strongly agree [ ]
- Agree [ ]
- Strongly disagree [ ]
- Disagree [ ]
- Not sure [ ]

B8. Does CBZ Bank consider credit risk management when assessing loan applications?

- Yes [ ]
- No [ ]

B9. If yes what are the credit risk management tools being used?

……

……

……

B11. Do you think the bank is adequately assessing credit applications?

- Strongly agree [ ]
- Agree [ ]
- Strongly disagree [ ]
- Disagree [ ]
- Not sure [ ]

B12. Are there any policies or procedures in place to reduce non-performing loans?

- Yes [ ]
- No [ ]

SECTION C: IMPACT OF NPLs ON BANK PERFORMANCE

Please respond by highlighting your level of agreeableness to the following statements concerning the impact of NPLs on Bank Perfomance: where SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree. Tick (√) in the appropriate box

Statement on effect of NPLs on Bank performance	**SA**	**A**	**N**	**D**	**SD**
Non-performing loans negatively affects a bank's lending capacity due to diminished core capital					
Non-performing loans have a negative effect on the bank's profits through increased provisions					
High levels of non-performing loans deny banks easy access to capital markets; both Debt and Equity.					
Non-performing loans negatively affects the shareholder's funds					
Non-performing loans can result to insolvency thus collapse of banks					
High levels of non-performing loans can lead to undercapitalization of the bank resulting to job losses					
Non-performing loans leads to revision upwards of interest rates thus denial of credit.					
Non-performing negatively affect a country's Gross Domestic Product (GDP)					
High prevalence of non- performing loans creates a negative signalling effect in the stock market thus lower share prices and market capitalisation.					
Non-performing loans leads to shortening of loan repayment periods					

SECTION D: IMPACT OF TECHNOLOGY AND INNOVATION ON CRM

Please respond by highlighting your level of agreeableness to the following statements concerning the impact of technology and innovative systems on Credit Risk Management at FBC Bank. Tick (√) in the appropriate box

	D1: Statement on Loan Pricing	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
D11	The introduction of Fusion OPICS has greatly improved loan pricing procedures.					
D12	The newly introduced system has been instrumental in minimising loan pricing reworks and costly mistakes.					
D13	Since the introduction of the Fusion OPICS, loan authorisations decisions time has been greatly reduced.					
D14	Loan pricing procedures are changed every time a new Credit Risk Management system is implemented.					
D15	Loan pricing is now system generated.					
	D2: Statement on Credit Rationing and Limits					
D21	In order to control dealers and loan officers, the bank uses system-based credit limits					
D22	Fusion OPICS helps provide management with real time breached limits information.					
D23	All credit limits are soft and the CRM system enables real time authorisation.					

D24	The credit risk management system is customised to suit the bank's authorisation workflows					
D25	Without technology, it is very difficult to enforce limits.					
D26	Credit Information Systems are efficient in detecting potential inter party relationships.					
D27	Information systems reduce time spend in detecting inter party relationships before a loan is issued.					
D28	It is easy to determine inter-party relationships when all the customer information is readily available.					
	D3: Statement on Credit Rating					
D31	The credit risk management system plays a crucial role in the rating credit models					
D32	Rating customers and collateral through the CRM system does not require a lot of mental effort.					
D33	The rating models currently in use are sophisticated and cannot be done without an information systems					
D34	Customer credit risk profiles that are generated by computer systems are effective.					
D35	I trust the Ratings and risk profiles produced by our Information System.					

Thank you for your information.