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Impact of Credit Risk Management on the Financial Performance of Microfinance Institutions in Nigeria: A Qualitative Review

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Abstract

This study reviewed the effect of credit risk management on the financial performance of microfinance institutions (MFIs) in Nigeria. Utilizing a qualitative review methodology, the review found that proactive risk assessment, thorough credit appraisal, proper loan monitoring, and prompt loan recovery procedures are essential components of efficient credit risk management, which has a substantial impact on MFI performance. Credit risk management is also improved by well-defined regulations, qualified personnel, and suitable technology infrastructure. The study cites difficulties MFIs confront, including restricted access to credit information, insufficient regulatory frameworks, and operational limitations. By addressing these issues, financial performance and sustainability can be increased. Enhancing credit information sharing systems, encouraging stakeholder cooperation, and offering capacity-building initiatives are some recommendations. This study offers insightful information that can help practitioners, regulators, and policymakers create a climate that supports efficient credit risk management while boosting financial performance and promoting Nigeria's long-term growth.

Keywords

Credit Risk Management, Credit Risk Appraisal, Credit Risk Identification, Credit Risk Mitigation, Credit Risk Monitoring, Nigeria

1. Introduction

Due to the credit crunch and global economic crisis that happened in 2007 and 2008, respectively, credit risk management has gained in prominence. Greater transparency is encouraged by regulatory agencies like the Central Bank of Nigeria (CBN), which also offers prudential guidelines to financial firms in Nigeria. This made it essential for financial organizations engaged in lending to be fully aware of the credit risk posed by their borrowers (clients). The practice of assessing and reducing the risk of loss brought on by borrowers' failure to pay their obligations is known as credit risk management (Bhatt et al., 2023). The stability and profitability of financial institutions are directly impacted by this risk, making it a crucial aspect of their operations (Telg et al., 2023). Credit risk must be measured, monitored, identified, and controlled in order for credit risk management to be effective. Credit scoring, lending restrictions, collateral, loan covenants, and loan portfolio diversification are just a few of the methods financial institutions utilize to control credit risk (Samorodov et al., 2019). Due to the continuous economic unpredictability and heightened competitiveness in the financial services sector, credit risk management has become more and more significant in recent years. Financial institutions must employ effective credit risk management procedures in order to safeguard themselves against potential losses and preserve the confidence of their stakeholders.

As a result, managing credit risk is essential to the financial success of microfinance institutions (MFIs). MFIs offer financial aid to people who don't have access to traditional banking services. These individuals might be less financially literate and possess fewer assets, which raises the possibility that they will default on their loans. As a result, effective credit risk management is essential to ensure both MFIs' existence and their clients' financial stability (Bouteille & Coogan-Pushner, 2021). Establishing suitable loan terms and conditions, keeping track of loan repayment, and determining a client's creditworthiness are all components of an effective credit risk management strategy. MFIs manage credit risk using a range of techniques, including group lending, collateral limitations, and credit ratings. Effective credit risk management allows MFIs to reduce default rates while still preserving the health of their loan portfolios. By lowering the amount of money the MFI must set aside for loan loss provisions, this can enhance financial performance. It may also enhance the institution's reputation, making it easier for it to draw in new investors and clients. The ability of an MFI to turn a profit, however, could be harmed by insufficient credit risk management (Bhatt et al., 2023). High default rates could cause the MFI to suffer large losses, which might restrict its capacity to fulfill obligations and expand its operations.

In addition to making it difficult for the MFI to attract new investors and clients, a high default rate can also limit the MFI's ability to expand and enhance its financial performance (Gnoatto, Picarelli, & Reisinger, 2023). Financial viability of MFIs depends on effective credit risk management. By effectively managing credit risk, MFIs can reduce default rates, maintain stable loan portfolios, and improve their financial performance. However, poor credit risk management can seriously harm MFIs, making it more difficult for them to meet their financial obligations, grow their clientele, and attract new investors. In order to adhere to the toughest regulatory requirements and pay the rising capital costs of credit risk, many financial institutions, including microfinance, are altering their approach to credit risk management, according to Li & Wen (2023). But microfinance organizations are being foolish if they believe this is just a compliance check. By performing better credit risk analysis and management, microfinance firms can raise overall financial stability and performance to maintain a competitive edge.

1.1. Statement of the Problem

Credit risk management is a subject that is receiving a lot of attention worldwide due to the current status of microfinance institutions in Nigeria (VenkateswaraRao et al., 2023). In order to satisfy their obligations when they become due and to increase profitability and shareholder value, managers of microfinance institutions around the world are concerned with developing a plan for managing their daily business operations. There don't seem to be many empirical studies, nevertheless, linking credit risk management to the monetary success of MFIs in Nigeria. Because managers have not been able to effectively conduct credit worthiness assessments or account for poor and dubious debts in their statements of financial condition, there has been a credit mismatch issue despite the significance MFIs focus on credit risk management (VenkateswaraRao et al., 2023). MFIs are now more susceptible to financial shocks as a result of their failure to pay their debts as they become due. It is critical to look into how credit risk management affects the financial performance of microfinance institutions in order to show how basic aspects of credit might affect MFIs' success in the banking sector. MFIs in Nigeria have expanded their selection of savings, insurance, and other products over time. Still, the loan portfolio is regarded as a sizeable portion of an MFI's asset base. Because of this, a microfinance's asset quality remains a crucial determinant of its financial viability. The effectiveness of MFIs' credit risk management has a significant impact on their success because they get their income from interest received on the loans they make. The increase in the percentage of non-performing loans in MFIs was mentioned in the Central Bank's 2014 Annual Supervision Report as an increasing rate of credit risk. The stability, viability, and sustainability of the MFIs are at risk due to this type of drift. Credit management, or more precisely credit risk management, refers to the strategies, procedures, and controls that a company uses to ensure efficient client payment collection and so lower the risk of non-payment (Ahelegbey et al., 2019).

1.2. Research Objectives

A critical component of Microfinance Institutions' (MFIs') financial performance is the efficient handling of credit risk. Identification, evaluation, and mitigation of risks related to lending activities are all part of credit risk management, which has the objective of guaranteeing the stability and sustainability of MFIs' business operations. The effect of credit risk management on the financial performance of MFIs has drawn more attention in recent years. Consequently, the following are the research goals for this study:

1) To evaluate how credit risk management affects microfinance institutions' financial success in Nigeria (Dube & Kwenda, 2023).

2) To determine the essential credit risk management techniques Microfinance Institutions, use to reduce credit risk (Anh, 2023).

3) To investigate how institutional traits, affect how well microfinance institutions handle credit risk in connection to their financial performance (Duho et al., 2023).

These research goals will direct a study on how credit risk management affects microfinance institutions' financial performance and offer insights into the best ways to manage credit risk in order to boost financial performance. By attaining these research goals, this study will add to the body of knowledge on microfinance and credit risk management and offer insightful advice for MFIs, decision-makers, and investors looking to improve the financial performance of microfinance institutions in Nigeria.

1.3. Research Questions

Credit risk management is a vital aspect of Microfinance Institutions' (MFIs') financial performance. Even though credit risk management in microfinance is getting increasing attention, the literature on how it affects MFIs' financial success is still lacking. Thus, the following research issues are the main emphasis of this investigation:

1) What is the relationship between non-performing loan and credit risk management on the financial performance of Microfinance Institutions in Nigeria?

2) What is the effect of credit risk rating system on the financial performance of Microfinance Institutions in mitigating credit risk in Nigeria?

3) How does debt-to-equity ratio affect the financial performance of Microfinance Institutions in Nigeria?

These study questions are crucial for comprehending how credit risk management affects MFIs' financial performance and can offer information on practical credit risk management techniques that can improve MFIs' financial performance. This study intends to contribute to the body of knowledge on microfinance and credit risk management by answering these research topics and to offer insightful information to MFIs, policymakers, and investors who are trying to boost the financial performance of microfinance organizations.

1.4. Statement of Hypotheses

A key component of Microfinance Institutions' (MFIs') financial performance is credit risk management. The body of research on the connection between credit risk management and MFIs' financial performance is expanding. The following research hypotheses are put forth by this study based on the body of available literature: In line with the specific objectives, the following hypotheses are stated in null form and tested. They are:

$H0_1$: In developing nations like Nigeria, there is no correlation between non-performing loan and credit risk management procedures and the financial performance of microfinance institutions (Emmanuel, Musa, & Polycarp, 2022).

$H0_2$: Effective credit risk rating system can help to lessen the impact of credit risk on microfinance institution's exposure and its financial performance (PhanThi Hang, 2023).

$H0_3$: Microfinance Institutions that have adopted effective credit risk management procedures do not significantly perform differently from those that have not, and this difference is more obvious in nations with lax regulatory environments (Zavos, 2023).

These study hypotheses serve as a starting point for examining how credit risk management affects the financial performance of microfinance institutions and may also serve as a general framework for future research in this field.

1.5. Significance of the Study

Theoretical Perspective:

In the context of microfinance institutions (MFIs) in Nigeria, the theoretical approach of this work focuses on improving credit risk management theory and microfinance theory. Although earlier studies have looked at the connection between credit risk management and financial success in a number of different industries, there is a shortage of qualitative research that is especially suited to the microfinance sector in Nigeria. This study seeks to close this research gap and add to the theoretical frameworks already in place on credit risk management and its effect on the financial performance of MFIs (Dai et al., 2023). The goal of the study is to investigate the complex details of credit risk management procedures used by MFIs in Nigeria and their direct impact on important financial performance metrics. This study intends to further the body of knowledge regarding credit risk management in the microfinance institutions by qualitatively examining the factors that affect credit risk and comprehending the processes by which efficient credit risk management methods can improve financial performance.

The study adds depth to microfinance theory in addition to improving credit risk management theory by shining light on these processes. The results of this study can serve as a strong basis for further investigation and model development in the area of microfinance, particularly with regard to credit risk management. This theoretical viewpoint ultimately seeks to advance our comprehension of the connection between credit risk management and financial performance in MFIs, opening the way for more efficient risk management procedures and long-term financial viability in the microfinance industry in Nigeria.

1) Advancing Credit Risk Management Theory: By offering a qualitative investigation of the effect of credit risk management on the financial performance

of microfinance institutions (MFIs) in Nigeria, this study adds to the body of current theoretical frameworks. By reviewing the nuances of credit risk management strategies and their direct impact on the financial performance metrics of MFIs, it closes the research gap. The results can contribute to the body of knowledge on credit risk management in the microfinance industry and serve as a starting point for further study and model development.

2) Enhancing Microfinance Theory: The study clarifies how credit risk management affects financial performance in microfinance organizations and provides insights into the precise mechanisms by which sound credit risk management procedures can improve financial sustainability. Policymakers, academics, and practitioners can better understand microfinance operations and create plans to assist the expansion and sustainability of MFIs by studying these processes.

Practical Perspective:

This study concentrates on the credit risk management implications and applications in Nigerian microfinance institutions (MFIs) from a practical standpoint. It intends to offer takeaways that MFIs can use to improve their financial performance and boost their credit risk management procedures. The study provides MFI managers and policymakers with useful advice by reviewing the effect of credit risk management on financial sustainability and profitability. The research findings can assist MFIs in creating strong frameworks for credit risk management that include efficient methods for risk assessment, loan monitoring systems, and credit risk reduction procedures. MFIs can reduce loan defaults, raise the calibre of their loan portfolio, and eventually strengthen their culture of risk management as a whole by implementing these techniques.

The review of the study also has broader ramifications for decision-makers who create regulatory frameworks and policies. The review can be used by policymakers to develop strategies that motivate MFIs to use good credit risk management techniques, thereby fostering a climate that supports financial inclusion and stability. As a result, the microfinance industry in Nigeria may grow and expand as well as draw in investments and boost investor trust. This study's practical perspective seeks to aid MFIs directly by delivering concrete suggestions and solutions for efficient credit risk management. MFIs can increase their financial performance, find funding opportunities, and help Nigeria's economy grow by putting these strategies into effect (Dai et al., 2023).

1) Strengthening Risk Management Practices: The review of this study can help microfinance organizations in Nigeria create effective frameworks for managing credit risk (Ihyak, Segaf, & Suprayitno, 2023). MFIs can successfully identify, assess, and mitigate credit risk by taking proactive measures after having a thorough grasp of the elements affecting credit risk and how it affects financial performance. This can reduce loan defaults, raise the standard of loan portfolios, and strengthen the institutions' overall risk management culture (Gallati, 2022).

2) Improving Financial Performance: The financial stability and profitability

of microfinance institutions are directly influenced by effective credit risk management (Mutai & Miroga, 2023). MFIs can lower credit losses, raise loan recovery rates, and improve overall financial performance by putting in place the proper risk assessment procedures, loan monitoring systems, and credit risk mitigation strategies. The study's conclusions can operate as a roadmap for MFI managers and policymakers as they develop and put into practice credit risk management procedures that support their institutional objectives and enhance financial performance (Annor & Obeng, 2018).

Overall, this study's practical perspective seeks to aid MFIs directly by delivering concrete suggestions and solutions for efficient credit risk management. MFIs can increase their financial performance, find funding opportunities, and help Nigeria's economy grow by putting these strategies into effect (Khawaja et al., 2023). There are major theoretical and practical ramifications to this qualitative study on the effect of credit risk management on the financial performance of microfinance organizations in Nigeria. The study helps to develop risk management procedures, improve financial performance, influence policy decisions, and draw investments into the microfinance industry by advancing theoretical understanding and offering helpful advice (Olobo et al., 2021). The results may contribute to a more resilient and inclusive financial ecosystem in Nigeria, which would be advantageous to MFIs and the general public (Almshabbak & Chouaibi, 2023).

2. Literature Review

2.1. Conceptual Review

Microfinance Institutions (MFIs) are required to manage their credit risk because it directly affects their ability to make money. Credit risk management includes the identification, measurement, monitoring, and control of credit risk, or the risk of losses brought on by borrowers failing to repay their loans. For MFIs to thrive and grow, particularly in Nigeria where the microfinance sector is still in its infancy, effective credit risk management practices are crucial. When trying to manage credit risk, MFIs in Nigeria have a variety of challenges, including limited access to credit information, inadequate risk management systems, and minimal legal protections (Gachigo, Ondigo, Aduda, & Onsomu, 2023). Due to the substantial credit risk that MFIs were exposed to, there were a lot of loan defaults, capital losses, and financial instability. According to recent studies, efficient credit risk management practices are essential for MFIs in Nigeria to be financially successful. For instance, Adeyemi et al. (2021) found that effective credit risk management practices can improve MFIs' financial performance by reducing loan default rates and increasing profitability. Similar conclusions were reached by Nwachukwu et al. (2020), who found that the financial success of MFIs in Nigeria was significantly influenced by credit risk management. According to the study, MFIs that utilized efficient credit risk management strategies outperformed those that did not.

Various factors may affect how effective credit risk management practices are in MFIs. For instance, an MFI's exposure to credit risk may differ depending on its size. Larger MFIs may be able to manage credit risk more successfully since they can afford to invest more money on employees and procedures (Adelowokan & Akinlo, 2021). The amount of economic development in a particular location also affects the level of credit risk that MFIs must manage. In regions with high rates of economic growth, borrowers might have easier access to credit information and might be more creditworthy, which could reduce the credit risk that MFIs are exposed to (Adeoye, Egbetokun, Ogunmola, & Fasanya, 2020). Effective credit risk management procedures are essential for MFIs in Nigeria to operate profitably. Effective credit risk management procedures can assist MFIs in lowering the rate of defaulted loans, increasing profitability, and strengthening their financial stability. MFIs in Nigeria, however, encounter a number of difficulties managing credit risk, thus policymakers and regulators must create an environment that encourages the creation and implementation of efficient credit risk management procedures in the microfinance industry.

2.2. Dimensions of Credit Risk Management

Identification, evaluation, and management of the risks related to lending and credit activities comprise credit risk management. Indicators of credit risk management include some of the following:

Non-performing loans (NPLs): This is the proportion of a bank's loan portfolio that is delinquent or in default. High levels of NPLs may indicate insufficient credit risk management and pose a risk to the bank's ability to make money.

Loan loss provisions (LLPs): This sum of money is kept aside by banks to offset probable loan losses. A more conservative strategy to credit risk management may be indicated by higher levels of LLPs, whilst more aggressive approach may be indicated by lower levels.

Credit risk rating systems: To determine a borrower's creditworthiness and award them a risk rating, banks may employ credit risk rating systems. These rating systems may take into account details like the borrower's credit history, payment history, and other pertinent data.

Collateral valuation: In order to secure their loans, banks may demand borrowers to submit collateral (such as real estate or stocks). As it can assist banks in determining the borrower's capacity to repay the loan and the possible loss in the event of default, the valuation of this collateral may serve as a stand-in for credit risk management.

Debt-to-equity ratio: This financial ratio evaluates the relationship between a company's total debt and equity. Given that the company may be more susceptible to financial trouble in the event of an economic downturn or other unfavourable occurrences, a high debt-to-equity ratio may signify a higher level of credit risk.

Loan-to-value ratio: This financial ratio assesses how much a loan is worth in relation to the value of the collateral used to secure it. If the value of the collateral drops, the borrower may be more prone to default, which could be indicated by a high loan-to-value ratio.

The dependent variable may change significantly when the independent variable's proxies change.

2.3. Theoretical Framework

The financial performance of microfinance institutions (MFIs) in Nigeria depends heavily on credit risk management. The stability and sustainability of MFIs, which are crucial in promoting financial inclusion and eradicating poverty in developing nations like Nigeria, depend on effective credit risk management. A number of theoretical frameworks have been created to help MFIs understand and apply credit risk management. The Basel II Accord, which offers a standardized framework for the assessment and management of credit risk in financial institutions, is one of these frameworks. The Basel II Accord places a strong emphasis on the use of internal rating systems, collateral, and credit risk mitigation strategies in financial institutions.

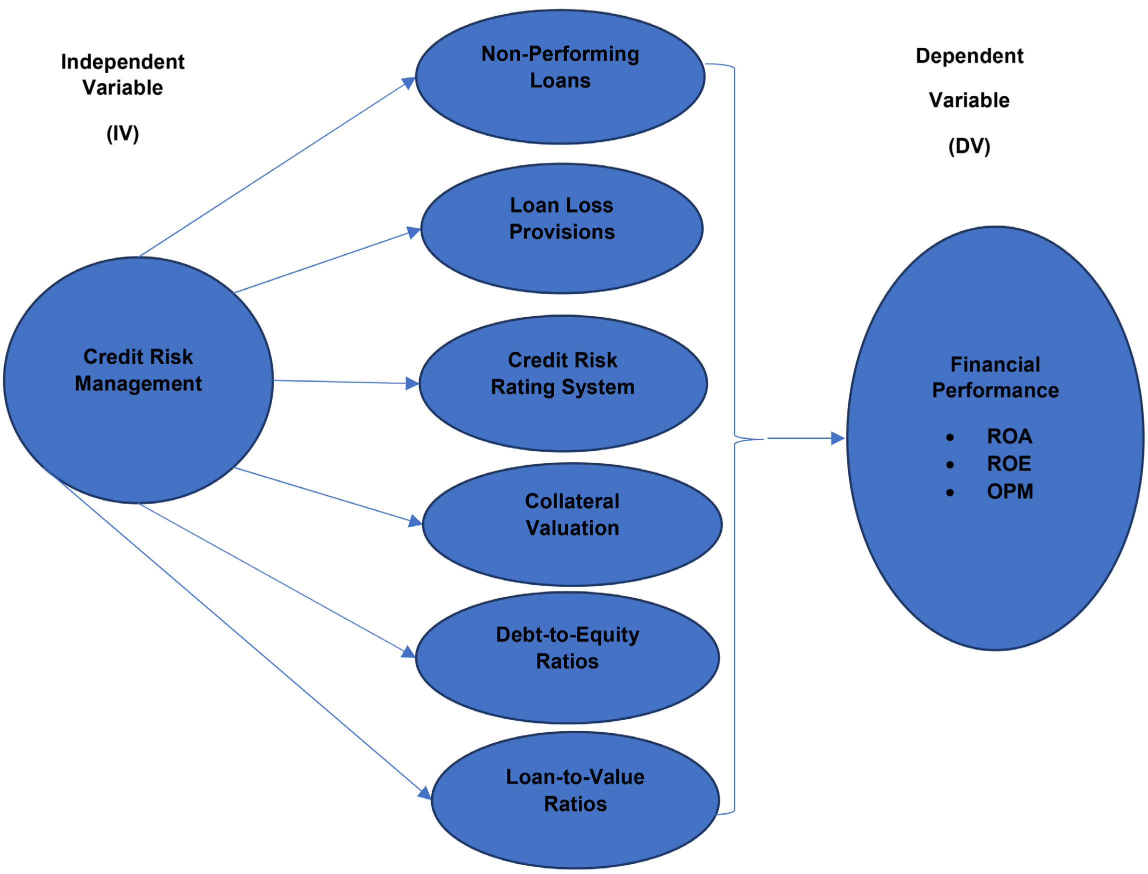

Figure 1. Relationship between the independent variable and dependent variable.

A similar strategy might be used to examine the relationship between dependent and independent variables in the context of the effect of credit risk management on the financial performance of microfinance organizations in Nigeria. We can develop an optimal set of evaluation indicators that shed light on the complex interactions between credit risk management procedures and the financial performance of microfinance institutions in Nigeria through a thorough investigation of the factors affecting credit risk management and financial performance combined with pertinent research in the field as illustrated in **Figure 1** (Olumo et al., 2022).

According to Abel et al. (2023), credit risk management model is another theoretical framework for credit risk management. This approach highlights the significance of examining both financial and non-financial aspects of credit risk, such as the borrower's credit history, financial statements, and macroeconomic circumstances. To determine creditworthiness and spot probable defaults, the model advises using credit score and rating models. The study of credit risk management in MFIs is relevant to the financial intermediation theory. According to the hypothesis, MFIs serve as middlemen in the delivery of financial services by connecting savers and borrowers. MFIs are vulnerable to credit risk because they are intermediaries, which may have an impact on their financial performance. In order to facilitate MFIs' function as financial intermediaries, effective credit risk management is essential to guaranteeing their long-term viability and stability (Abel et al., 2023).

Understanding credit risk management in MFIs requires consideration of the stakeholder theory. According to the hypothesis, MFIs are impacted by a wide range of parties, including borrowers, investors, regulators, and the general public. In order to balance the interests of these stakeholders and ensure the MFI's long-term viability, effective credit risk management is crucial (Dimitrov & van Wijnbergen, 2023). In order to ensure the stability and sustainability of MFIs in Nigeria, credit risk management is essential. Frameworks for comprehending and implementing credit risk management in MFIs include the Basel II Accord, credit risk management model, financial intermediation theory, and stakeholder theory. The financial intermediation theory would be applied to this investigation. Gurley and Shaw created it in 1960; it is based on transaction costs and asymmetric knowledge; it is intended to take into account institutions that accept deposits and distribute money to businesses.

2.4. Empirical Review

Anwer, Hamad, Ibrahim, Gardi, Hamza, Qader, & Othman (2023), examined the impact of credit risk management on the financial performance of Nigerian listed microfinance banks. The annual reports and financial statements of the two microfinance banks listed on the Nigerian Stock Exchange were used to collect data between 2012 and 2017. Multiple regression, panel regression, multiple regression, and Pearson correlation were used to statistically analyze the gathered data. The results demonstrated the low capital adequacy ratio and its significant influence on financial performance. Positive non-performing loan ratio has a substantial impact on financial success. The ratio of loan loss provision, which is negative, has a major negative influence on the financial performance of microfinance banks in Nigeria. Financial performance is adversely associated with inflation, bank size, and the control variable. This study proved that credit risk management has a big impact on Nigerian microfinance institutions' ability to make money.

Hermuningsih, Sari, & Rahmawati (2023), examined how credit risk affects the stability of the finances of Nepal's commercial banks. The analysis included 160 observations from the balance panels of ten commercial banks, spanning the years 2001 to 2016. According to regression analysis, there is a significant correlation between the financial performance (ROA), capital adequacy ratio (CAR), non-performing loan ratio (NPLR), and management quality ratio (MQR) of Nepal's commercial banks. The financial performance of Nepal's commercial banks is not significantly impacted by the loan to deposit ratio (CDR) or risk sensitivity (RS).

Using financial data from banks listed on the Ghana Stock Exchange over a 15-year period, from 2003 to 2017, Kwashie, Baidoo, & Ayesu (2022), have identified the factors that determine the level of bank credit risk and further estimated the effects of bank credit risk on corporate financial performance. Credit risk is found to be inversely related to factors like capital sufficiency, operational effectiveness, profitability, and net interest margin using the 2SLS approach. On the other hand, credit risk is positively correlated with the size of the bank and the funding gap. Additionally, annualized inflation adjustments frequently have a favorable impact on credit risk. According to the Basel agreement, the rise in bank credit risk has been observed to have a negative effect on firm financial performance. Therefore, if banks are to continue operating, limiting the exposure to credit risk is crucial.

Within the context of the structural equation model (SEM), Gadzo, Kportorgbi, and Gatsi (2019) evaluated the impact of operational and credit risk on the financial performance of universal banks. All 24 universal banks in Ghana provided data, and no variables were missing. Contrary to the empirical inquiry, the PLS-SEM results demonstrated that credit risk had a negative impact on financial performance, which was consistent with the information asymmetry postulate of the lemon theory. Additionally, it was demonstrated that operational risk had a detrimental impact on the monetary performance of Ghana's universal banks. The study also shown that bank-specific factors (asset quality, bank leverage, cost to income ratio, and liquidity) had a substantial impact on the credit risk, operational risk, and financial performance of the universal bank. Khan, Ramzan, Kousar, & Shafiq (2023) investigated the performance of Nigeria's deposit money banks using information from the five banks with the largest asset bases. The annual reports and financial statements of the chosen deposit money banks were used to construct the 2000-2014 dataset using an ex-post facto research design. A least squares regression model was used to evaluate three hypotheses. The results show that credit risk management had a significant and positive impact on the deposit money banks' return on equity, return on assets, and total loans and advances.

The potential link between credit risk management strategies and the financial success of microfinance firms in Kampala, Uganda, was examined by Sathyamoorthi, Mapharing, Mphoeng, & Dzimiri (2020). The study specifically used a sample of 60 employees from the finance and credit departments of three licensed microfinance institutions in order to ascertain whether there is a relationship between credit risk identification, credit risk appraisal, credit risk monitoring, and credit risk mitigation and financial performance of microfinance institutions in Kampala, Uganda. Answers to closed-ended inquiries made up the primary data that was gathered using questionnaires. The annual reports of the microfinance institutions (MFI) were used for secondary data for the years 2011 through 2015. To analyze the population, frequencies and descriptive data were used. The relationship between credit risk management strategies and financial performance was investigated using the Pearson linear correlation coefficient. The results show that credit risk identification and credit risk assessment have a high positive link with the financial performance of MFIs, but that relationship is only marginally significant for credit risk monitoring and credit risk mitigation.

2.5. Literature Gaps

One lacuna in the literature regarding the study of credit risk management in microfinance institutions (MFIs) in Nigeria is the minimal research on the use of technology in credit risk management. Despite some studies looking at how it affects financial inclusion and loan availability, very little study has examined the role that technology plays in credit risk assessment, monitoring, and mitigation in MFIs. Given the rapid growth of digital financial services in Nigeria and the potential benefits of technology in improving credit risk management, additional empirical research on the use of credit scoring models, mobile banking, and data analytics in MFIs is required. This study has a unique possibility to fill a knowledge gap on the function of technology in credit risk management in Nigerian MFIs.

Another gap in the literature on the study of credit risk management in microfinance institutions (MFIs) in Nigeria is the scarce research on the influence of governance and risk management strategies on credit risk management in MFIs. However, several research has looked at the connection between governance and financial performance. Few studies have specifically examined the importance of governance and risk management in credit risk management in MFIs. Given the importance of effective governance and risk management practices in lowering credit risk, more empirical studies on the effects of board composition, risk committees, and risk policies on credit risk management in Nigerian MFIs are needed. This research has a chance to fill a vacuum in the literature by shedding light on the interplay between governance, risk management, and credit risk management in Nigerian MFIs.

3. Conclusion

This study emphasizes the important role credit risk management plays in microfinance institutions' (MFIs') financial success in Nigeria. In order to effectively manage credit risks, the findings highlight the significance of proactive risk assessment, thorough credit appraisal, proper loan monitoring, and prompt loan recovery procedures. Additionally, clear regulations, competent personnel, and a sufficient technology foundation are essential for improving credit risk management methods. The report also cites obstacles MFIs must overcome in order to adopt effective credit risk management, such as restricted access to credit data, insufficient legal frameworks, and operational limitations. MFIs' financial performance and sustainability can be improved by tackling these issues through increased credit information sharing, strengthened regulatory frameworks, and cooperative efforts among stakeholders. A set of recommendations to improve credit risk management procedures in MFIs are included in the study's conclusion. The implementation of thorough credit information sharing systems, the creation of customized regulatory frameworks, encouraging stakeholder cooperation, investing in technology, ongoing staff training, encouraging portfolio diversification, and supporting capacity-building initiatives are some of these recommendations.

4. Recommendation

Several suggestions are put up to improve credit risk management procedures in microfinance institutions (MFIs) in Nigeria based on the study's findings:

- Improve Credit Information Sharing: Create a thorough framework for MFIs to share credit information in order to increase access to borrower data and facilitate well-informed credit decisions. Credit risks can be reduced by promoting data sharing activities and putting in place standardized credit reporting structures.
- Invest in Technology: Provide funding for MFIs' technological infrastructure upgrades. Operations can be streamlined and risk management procedures can be strengthened by implementing cutting-edge credit risk assessment tools, loan monitoring systems, and digital platforms for effective loan recovery processes.
- Promote Portfolio Diversification: To lower the danger of concentration, encourage the diversification of MFI loan portfolios. Increasing the availability of various financial services and products, such as micro-leasing, insurance, and savings accounts, might lessen the effects of defaults in particular indus-

tries or geographical areas.

These suggestions can help MFIs in Nigeria improve their credit risk management procedures, lower loan default rates, and boost their overall financial performance. As a result, the microfinance industry will grow and develop sustainably, promoting greater financial inclusion and economic empowerment for Nigeria's underprivileged communities. By adopting these recommendations, MFIs and policymakers can foster a conducive environment for effective credit risk management, thereby enhancing the financial performance of MFIs and contributing to the sustainable development of the Nigerian economy. Ultimately, these efforts will promote greater financial inclusion and empower the financially underserved population in Nigeria.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Abel, S., Mukarati, J., Jeke, L., & Le Roux, P. (2023). Credit Risk and Bank Profitability in Zimbabwe: An ARDL Approach. *International Journal of Economics and Finance Studies, 15,* 370-385.

Adelowokan, O. A., & Akinlo, A. E. (2021). Credit Risk Management and Financial Performance of Microfinance Institutions in Nigeria: Does Size Matter? *Heliyon, 7,* 1-14.

Adeoye, A. O., Egbetokun, A. A., Ogunmola, O. Y., & Fasanya, I. O. (2020). Credit Risk Management and Financial Performance of Microfinance Institutions in Nigeria. *Journal of Financial Economic Policy, 12,* 777-796.

Adeyemi, K. S., Oladipupo, O. A., & Ilesanmi, O. A. (2021). Credit Risk Management Practices and Financial Performance of Microfinance Institutions in Nigeria. *Journal of African Business, 8,* 1-19.

Ahelegbey, D. F., Giudici, P., & Hadji-Misheva, B. (2019). Factorial Network Models to Improve P2P Credit Risk Management. *Frontiers in Artificial Intelligence, 2,* Article No. 8. https://doi.org/10.3389/frai.2019.00008

Almshabbak, A. N. S., & Chouaibi, J. (2023). Measuring the Level of Voluntary Disclosure in Commercial Banks and Its Effect on Improving Financial Performance: An Applied Study on Number of Commercial Banks in the Iraqi Stock Exchange. *International Journal of Professional Business Review, 8,* e0927. https://doi.org/10.26668/businessreview/2023.v8i1.927

Anh, N. Q. (2023). Impact of Credit Risk Management on the Financial Stability of Vietnamese Commercial Banks. *Tạpchí Nghiêncứu Tàichính—Marketing, 14,* 35-48. https://doi.org/10.52932/jfm.vi3.373

Annor, E., & Obeng, F. (2018). Impact of Credit Risk Management on the Profitability of Selected Commercial Banks Listed on the Ghana Stock Exchange. *Journal of Economics, Management and Trade, 20,* 1-10. https://doi.org/10.9734/JEMT/2017/36881

Anwer, S. A., Hamad, H. A., Ibrahim, H. K., Gardi, B., Hamza, P. A., Othman, R. N., Qader, K. S., & Hamad, K. Q. (2023). The Role of Credit Risk Management in Performance of Commercial Banks: Analysis of Commercial banks' Performance in Erbil. *Qalaai Zanist Journal, 8,* 1172-1193. https://doi.org/10.25212/lfu.qzj.8.2.46

Bhatt, T. K., Ahmed, N., Iqbal, M. B., & Ullah, M. (2023). Examining the Determinants of Credit Risk Management and Their Relationship with the Performance of Commercial Banks in Nepal. *Journal of Risk and Financial Management, 16,* Article No. 235. https://doi.org/10.3390/jrfm16040235

Bouteille, S., & Coogan-Pushner, D. (2021). *The Handbook of Credit Risk Management: Originating, Assessing, and Managing Credit Exposures*. John Wiley & Sons.

Dai, J., Hu, N., Huang, R., & Yan, Y. (2023). How Does Credit Risk Affect Cost Management Strategies? Evidence on the Initiation of Credit Default Swap and Sticky Cost Behavior. *Journal of Corporate Finance, 80,* Article ID: 102401. https://doi.org/10.1016/j.jcorpfin.2023.102401

Dimitrov, D., & van Wijnbergen, S. (2023). *Macroprudential Regulation: A Risk Management Approach*. https://doi.org/10.2139/ssrn.4349908

Dube, H., & Kwenda, F. (2023). Credit Risk Management and the Financial Performance of Microfinance Institutions in Southern Africa. *The Journal of Developing Areas, 57,* 145-157. https://doi.org/10.1353/jda.2023.0026

Duho, K. C. T., Duho, D. M., & Forson, J. A. (2023). Impact of Income Diversification Strategy on Credit Risk and Market Risk among Microfinance Institutions. *Journal of Economic and Administrative Sciences, 39,* 523-546. https://doi.org/10.1108/JEAS-09-2020-0166

Emmanuel, B., Musa, B. B., & Polycarp, S. U. (2022). Central Bank of Nigeria Prudential Guidelines and the Financial Performance of Deposit Money Banks in Nigeria. *Accounting and Taxation Review, 6,* 47-71.

Gachigo, J., Ondigo, H., Aduda, J., & Onsomu, Z. (2023). Intervening Role of Risk Management on the Relationship between Mergers and Acquisitions and Financial Performance of Commercial Banks in Kenya. *African Development Finance Journal, 5,* 71-96.

Gadzo, S. G., Kportorgbi, H. K., & Gatsi, J. G. (2019). Credit Risk and Operational Risk on Financial Performance of Universal Banks in Ghana: A Partial Least Squared Structural Equation Model (PLS SEM) Approach. *Cogent Economics & Finance, 7,* Article ID: 1589406. https://doi.org/10.1080/23322039.2019.1589406

Gallati, R. R. (2022). *Risk Management and Capital Adequacy*. McGraw-Hill.

Gnoatto, A., Picarelli, A., & Reisinger, C. (2023). Deep xVA Solver: A Neural Network-Based Counterparty Credit Risk Management Framework. *SIAM Journal on Financial Mathematics, 14,* 314-352. https://doi.org/10.1137/21M1457606

Hermuningsih, S., Sari, P. P., & Rahmawati, A. D. (2023). The Moderating Role of Bank Size: Influence of Fintech, Liquidity on Financial Performance. *Jurnal Siasat Bisnis, 27,* 106-117. https://doi.org/10.20885/jsb.vol27.iss1.art8

Ihyak, M., Segaf, S., & Suprayitno, E. (2023). Risk Management in Islamic Financial Institutions (Literature Review). *Enrichment: Journal of Management, 13,* 1560-1567.

Khan, N., Ramzan, M., Kousar, T., & Shafiq, M. A. (2023). Impact of Bank Specific Factors on Credit Risk: Evidence from Islamic and Conventional Banks of Pakistan. *Pakistan Journal of Humanities and Social Sciences, 11,* 580-592. https://doi.org/10.52131/pjhss.2023.1101.0375

Khawaja, R., Nawaz, U., & Aman, D. N. (2023). *Evaluating the Impact of Bank Distress on the Financial Performance of Commercial vs Islamic Banks in Pakistan*. https://doi.org/10.2139/ssrn.4382721

Kwashie, A. A., Baidoo, S. T., & Ayesu, E. K. (2022). Investigating the Impact of Credit Risk on Financial Performance of Commercial Banks in Ghana. *Cogent Economics & Finance, 10,* Article ID: 2109281. https://doi.org/10.1080/23322039.2022.2109281

Li, Y., & Wen, G. (2023). Research and Practice of Financial Credit Risk Management Based on Federated Learning. *Engineering Letters, 5,* 12.

Mutai, G., & Miroga, J. (2023). Financial Management Practices and Financial Performance of Commercial Banks in Kenya. *International Academic Journal of Economics and Finance, 3,* 78.

Nwachukwu, I. N., Agu, C. I., & Adeniji, A. A. (2020). Credit Risk Management and the Financial Performance of Microfinance Institutions in Nigeria. *Journal of Financial Risk Management, 9,* 121-132.

Olobo, M., Karyeija, G., Sande, P., & Khoch, S. (2021). Credit Risk Management Practices and Performance of Commercial Banks in South Sudan. *Journal of Financial Risk Management, 10,* 306-316. https://doi.org/10.4236/jfrm.2021.103018

Olumo, S. S., Lotsi, D. S., Ibrahim, U. A., & Muritala, T. A. (2022). Financial Risk and Commercial Bank's Performance in Nigeria: An Empirical Review. *Qualitative and Quantitative Research Review, 7,* 89-109.

PhanThi Hang, N. (2023). Policy Recommendations for Controlling Credit Risks in Commercial Banks after the Covid-19 Pandemic in Vietnam. *Cogent Economics & Finance, 11,* Article ID: 2160044. https://doi.org/10.1080/23322039.2022.2160044

Samorodov, B. V., Azarenkova, G. M., Golovko, O. G., Miroshnik, O. Y., & Babenko, M. V. (2019). Credit Risk Management in the Bank's Financial Stability System. *Financial and Credit Activity Problems of Theory and Practice, 4,* 301-310. https://doi.org/10.18371/fcaptp.v4i31.190920

Sathyamoorthi, C., Mapharing, M., Mphoeng, M., & Dzimiri, M. (2020). Impact of Financial Risk Management Practices on Financial Performance: Evidence from Commercial Banks in Botswana. *Applied Finance and Accounting, 6,* 25-39. https://doi.org/10.11114/afa.v6i1.4650

Telg, S., Dubinova, A., & Lucas, A. (2023). Covid-19, Credit Risk Management Modeling, and Government Support. *Journal of Banking & Finance, 147,* Article ID: 106638. https://doi.org/10.1016/j.jbankfin.2022.106638

VenkateswaraRao, M., Vellela, S., Reddy, V., Vullam, N., Sk, K. B., & Roja, D. (2023). Credit Investigation and Comprehensive Risk Management System Based Big Data Analytics in Commercial Banking. In *2023 9th International Conference on Advanced Computing and Communication Systems (ICACCS)* (Vol. 1, pp. 2387-2391). IEEE. https://doi.org/10.1109/ICACCS57279.2023.10113084

Zavos, P. A. (2023). *The Integration of Environmental Risks into the Credit Risk Management Profile of European Banks*. Doctoral Dissertation, University of Piraeus (Greece).