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The Role of Fintech Partnerships in Mitigating Non-Performing Loans at Absa Bank Zambia

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Abstract

This study investigated the Role of fintech partnerships in mitigating non-performing loans (NPLs) at Absa Bank Zambia. Non-performing loans have persisted above the prudential threshold, undermining bank profitability, operational efficiency, and financial stability. The study adopted a mixed-methods approach, combining quantitative surveys and qualitative insights from employees directly involved in credit assessment, loan monitoring, and risk management. Data were collected through structured questionnaires and analyzed using SPSS for descriptive, correlation, and regression analyses, while qualitative responses were examined thematically. Findings indicated that fintech-enabled solutions, particularly PRobase and JUMO platforms, significantly enhanced credit risk management and reduced loan defaults. Digital credit assessment tools improved borrower evaluation and informed loan approval decisions, whereas automated monitoring systems provided early warning signals and supported proactive interventions such as follow-ups and restructuring. Mobile and online lending platforms promoted timely repayments through notifications and accessible repayment channels, while data analytics and reporting capabilities facilitated evidence-based decision-making and trend monitoring. However, usage and adoption varied across departments, limiting the full potential of these tools. The study concluded that fintech partnerships are instrumental in reducing NPLs, enhancing operational efficiency, and supporting data-driven decision-making. Consistent staff engagement, targeted training, cross-department collaboration, and continuous system feedback are essential to maximize the effectiveness of these technological solutions.

Keywords: Fintech Partnerships, Non-Performing Loans (NPLs), Digital Credit Assessment, Loan Monitoring Systems, Data Analytics in Banking

1. Introduction and Background

Fintech solutions refer to technology-driven innovations designed to improve, automate, and streamline financial services. These solutions leverage advanced software, digital platforms, and data analytics to enhance banking operations, payment systems, lending, investment management, and risk assessment (Kagan, Estevvez, & Kvilhaug, 2025). Examples of fintech solutions include digital lending platforms that enable online loan applications and instant credit assessments, mobile banking applications that facilitate secure transactions, automated payment systems, blockchain-based transaction verification, and artificial intelligence (AI)-powered credit scoring systems (Areo, 2019). By integrating these technologies, financial institutions can reduce operational costs, improve efficiency, enhance customer experience, and make more informed lending and investment decisions.

Fintech partnerships, on the other hand, involve strategic collaborations between traditional financial institutions and fintech companies. These partnerships typically aim to combine the regulatory experience, customer base, and trust of established banks with the technological expertise, innovation, and agility of fintech firms (Chand, 2025). Such collaborations may involve joint development of digital products, implementation of AI-driven risk management tools, integration of mobile and online payment solutions, or access to big data analytics for credit evaluation (Odumuwagun, Adewale, & Umavezi, 2025). Partnerships can be structured as co-branded services, technology licensing agreements, or investment collaborations, allowing banks to adopt cutting-edge solutions without the need for extensive in-house development.

In essence, fintech solutions provide technological tools that enhance financial services, while fintech partnerships enable banks to leverage these tools efficiently. By combining resources, expertise, and innovation, such partnerships create opportunities for improved service delivery, enhanced customer experience, and more effective management of credit risk, including the mitigation of non-performing loans.

Fintech partnerships began emerging in the early 2010s, following the rapid advancement of digital financial technologies and increased mobile and internet penetration. While financial technology innovations existed earlier, it was during this period that traditional banks started forming formal collaborations with fintech firms to leverage their digital capabilities (Almomani & Alomari, 2021). These partnerships aimed to improve operational efficiency, expand access to financial services, and enhance risk management, particularly in lending and credit assessment (Saci & Jasimuddin, 2025). Countries with growing digital ecosystems, including several African economies, witnessed an increase in such collaborations as banks sought to remain competitive and address rising credit risks. Notwithstanding, before the end of 2011, in particular, on 1st December 2011, the rate of NPLs rose back to 10%. Furthermore, on 1st February 2012 (2/01/2012), the rate of NPLs further increased to 11% and later decreased to 10% maintaining this magnitude taken as the prudential threshold until 10th October 2012; it reduced to 8% which was proportionately below the prudential threshold. Therefore, from 1st October 2012 to 1st September 2016, the rate of non-performing loans despite exhibiting fluctuating magnitudes maintained below the prudential threshold of 10%. This indicated a much better performance with regards to NPLs in Zambia between 1st October 2012 and 1st September 2016 (as shown in figure 1; above).

However, on 1st October 2016, the rate of NPLs escalated to 10%, which was in line with the prudential threshold (line presented in figure 1). It then increased further to 13% on 1st January 2018. Hence, from 1st February 2017 to 1st December 2018, the rate of non-performing loans in Zambia has been above the prudential threshold of 10% despite a decrease towards the end of 2018 from 12% on 1st August 2018 to 11% on 1st December 2018.

Economic theory suggests that financial innovations, such as those offered through fintech partnerships, should positively influence the performance of banks by improving information asymmetry and reducing credit risk. (Feng , 2025) According to the credit rationing and risk management theory, better access to borrower information and advanced monitoring tools should enable banks to make more informed lending decisions (Ovenc & Nabiyev, 2025). Consequently, banks partnering with fintech firms are expected to experience a reduction in non-performing loans (NPLs) because digital credit scoring, predictive analytics, and automated repayment monitoring enhance early detection of potential defaults (Zalan & Toufaily, 2017). Furthermore, fintech solutions can facilitate faster loan processing and improve customer repayment behavior through convenient digital channels, consistent reminders, and personalized risk-based interventions.

In essence, the introduction of fintech partnerships provides both technological and strategic advantages that can strengthen banks' credit management systems. Economic theory predicts a negative relationship between fintech partnerships and NPLs, meaning that as banks engage more effectively with fintech innovations, the incidence of non-performing loans is expected to decrease, improving overall financial stability.

Statistics based on monthly data from Bank of Zambia over the years from 2011 to 2018 show that from 1st January 2011 (01/01/2011), the rate of NPLs in Zambia was 14%, which was above the 10% prudential threshold (as shown in figure 2; above). However, on 1st May 2011, the rate of NPLs reduced to 13%; this decrease indicated an improvement in loan defaults, however, the proportionate decrease was too low to bring down the rate of NPLs below the prudential threshold.

2. Literature Review

2.1 Previous Studies

Wang, Mao, Wu, and Luo (2023) examined the role of fintech in preventing and resolving financial risks, with a focus on the ability of small and medium-sized commercial banks to use fintech to mitigate non-performing loan (NPL) risks. The study utilized micro-survey data from 432 branches of city commercial banks in Beijing covering the period from 2005 to 2022. An econometric model was constructed to assess the risk-reduction effect of fintech on NPLs. The findings indicated that fintech inputs significantly reduced the risk of non-performing loans. Specifically, a 1% increase in IT personnel inputs, software inputs, and hardware inputs corresponded to reductions in the non-performing loan ratio by 0.091%, 0.055%, and 0.024%, respectively. IT personnel inputs contributed most to reducing NPL risk, followed by software inputs. The study also reported a lag effect, showing that fintech's ability to alleviate NPL risk tended to strengthen over time. Furthermore, fintech inputs indirectly affected bank performance through NPL risk reduction, creating a positive feedback loop between fintech adoption, NPL mitigation, and improved performance. This indirect effect was not significant in the current period but became significant when lagged by three periods. The study also found that fintech inputs significantly inhibited both loans of concern and subprime loans, with software and personnel inputs exerting greater effects than hardware inputs. Mechanism analysis revealed that data governance, compliance enforcement, and internal control measures moderated the Role of fintech inputs on NPL risk.

Chai and Suchao (2024) examined how fintech development in commercial banks mitigated non-performing loan risk. The study employed a two-way fixed effects model and analyzed data from listed commercial banks over the period from 2011 to 2022. The findings indicated that fintech development significantly reduced non-performing loan risk through both pre-lending and post-loan mechanisms. Specifically, fintech adoption improved pre-lending processes by enhancing credit screening and risk assessment, while post-loan cost reduction and revenue growth effects further strengthened banks' ability to manage and absorb credit risk. These mechanisms contributed to improved loan performance and

enhanced operational efficiency within commercial banks. The study contributed to both theory and practice by demonstrating how fintech development supported the sustainable growth of commercial banks while simultaneously maintaining financial system stability. The findings also offered practical insights for policymakers and financial institutions in countries seeking to leverage digital technologies to strengthen credit risk management and promote financial stability. Overall, the study provided empirical evidence that fintech development played a critical role in mitigating non-performing loan risk within the banking sector.

2.2 Fintech's Role in Addressing Credit Market Failures and Asymmetries

Studies in this group investigate how fintech solutions rectify specific structural problems in credit markets, such as information asymmetry and debt maturity mismatches, which are root causes of NPLs. Weiyu and Xiaoyan (2025) examined information asymmetry between banks and enterprises as a fundamental source of financial risk in the credit market, with particular emphasis on the problem of short-term debt used for long-term purposes, commonly referred to as SDLU. The study argued that frequent corporate debt defaults associated with SDLU intensified the transmission of individual liquidity crises into systemic repayment risks. To assess whether bank financial technology could mitigate SDLU and reduce financial risk, the study matched loan data of China's A-share listed companies with patent data on bank-developed fintech innovations covering the period from 2013 to 2022.

Based on this data, a Bank-Fintech Development Index was constructed for empirical analysis. The findings indicated that the development of bank fintech significantly inhibited SDLU. Mechanism analysis showed that fintech adoption reduced banks' credit and liquidity risks by lowering firms' risk-weighted assets and improving capital adequacy and liquidity ratios. In addition, fintech development shifted banks' lending preferences toward duration-matched long-term financing and encouraged enterprises to improve financial health and information transparency. This, in turn, enhanced firms' access to long-term loans and promoted active management of maturity mismatch risks. Heterogeneity analysis revealed that the mitigating effect of bank fintech on SDLU was more pronounced among non-state-owned enterprises and firms operating in technology-intensive industries. Further analysis demonstrated that enterprise digitization levels, the intensity of financial regulation, and supportive financial policies significantly moderated the relationship between bank fintech development and SDLU. Overall, the study provided empirical support for Porter's Risk Mitigation Hypothesis of fintech and offered evidence on how fintech can address financial vulnerabilities arising from debt maturity mismatches and contribute to financial supply-side reform.

Fintech as a Mediator for Firm Performance and Access to Finance

This theme includes research that positions fintech adoption not as a direct bank tool, but as a critical mediating channel through which firms, particularly SMEs, translate resources like finance and leadership into sustainable performance, indirectly influencing credit health.

Bajwa (2025) investigated the effects of access to finance and sustainable innovative leadership on sustainable firm performance using the theoretical perspectives of Ecological Modernization Theory and the Resource-Based View. The study focused on the mediating Role of fintech adoption and the moderated mediation effect of financial competencies within the small and medium-sized enterprise sector in Pakistan. Survey data were collected from 350 SME executives and analyzed using Partial Least Squares Structural Equation Modeling. The findings revealed that access to finance and sustainable innovative leadership were positively associated with firms' sustainable performance through fintech adoption. This indicated that fintech adoption played a significant mediating role in translating financial access and leadership innovation into improved performance outcomes. In addition, financial competencies were found to positively moderate the relationship between access to finance, fintech adoption, and sustainable performance, suggesting that firms with stronger financial skills were better positioned to leverage fintech solutions effectively. The study further demonstrated that access to finance, sustainable innovative leadership, fintech adoption, and financial competencies functioned as critical firm resources that contributed to sustainable performance across environmental, social, and financial dimensions. Based on these findings, the study emphasized the importance of strengthening fintech implementation, enhancing internal and external control systems, and improving managerial financial competencies. Bajwa (2025) concluded that such measures could improve firms' access to finance and support policymakers in designing targeted fintech regulatory frameworks and capacity-building programs for the SME sector.

2.3 The Role of Fintech Collaboration and Credit on Bank Stability and Efficiency

This category groups studies that analyze the broader institutional effects of fintech, including strategic bank-fintech collaborations and the rise of alternative digital lending, on traditional banks' efficiency, risk profiles, and overall stability. Ntwiga (2020) examined the influence of fintech and bank collaboration on efficiency within the Kenyan banking sector, based on the premise that efficient banks enhance financial stability, intermediation, and shareholder value. The study investigated whether collaborations between fintech firms and banks had a positive or negative effect on banking efficiency amid the evolving fintech landscape in Kenya. The study applied data envelopment analysis using an input-oriented approach across four intermediation dimension models. Efficiency scores were decomposed into technical efficiency, pure technical efficiency, and scale efficiency. Financial statement data covering the period from 2009 to 2018 were analyzed for the top fifteen banks by market share. Of these, thirteen banks were either locally owned or listed on the Nairobi Securities Exchange, while two foreign-owned banks were excluded. Within the sample, five banks had established fintech collaborations. The study period was divided into a pre-fintech phase from 2009 to 2014 and a post-fintech phase from

2015 to 2018. Descriptive statistics were used to summarize the data, while Kruskal Wallis and Conover post hoc tests were employed to assess differences across groups. Panel regression analysis was further applied to examine the effect of financial ratios on banks' technical efficiency across the pre and post fintech periods. The findings indicated that banks engaged in fintech collaborations demonstrated superior management performance and higher efficiency scores in both periods compared to locally owned and Nairobi Securities Exchange listed banks. Fintech collaboration was found to reduce the cost of intermediation and increase the scale of operations, resulting in decreasing returns to scale. Overall, the study concluded that fintech and bank collaborations had a positive but statistically insignificant effect on banking efficiency.

Lucey (2025) investigated the relationship between fintech credit and bank stability within the global banking sector in the context of rapid digital transformation. The study examined whether the expansion of fintech credit increased competitive pressures and financial risk for banks or whether traditional banks were effectively adapting to digital disruptions. Bank stability was proxied using Credit Risk Distance as a measure of default risk. Using panel data estimation techniques with firm and country year fixed effects, the findings showed that increased fintech credit was associated with higher Credit Risk Distance. This indicated a lower likelihood of default and suggested a stabilizing effect of fintech credit on bank risk. Sub-sample analyses further compared distressed and non-distressed banks, as well as highly leveraged and less leveraged institutions, to assess whether the relationship differed across bank characteristics. The robustness of the results was confirmed using the System Generalized Method of Moments estimation approach. Overall, the study contributed to the growing literature on fintech and financial stability by providing empirical evidence that fintech credit was associated with improved bank stability rather than heightened risk. The findings also offered practical insights for policymakers, bank executives, and investors seeking to navigate the evolving digital financial landscape and manage risks associated with fintech driven competition.

2.4 Macro-Level and Cross-Country Analyses of Fintech and NPL Trends

This section includes research that adopts a macroeconomic or cross-country perspective to analyze trends in non-performing loans in relation to the evolution of fintech eras and the global drivers of digital lending.

Ozili (2021) investigated the behavior of bank non-performing loans in the fintech era using panel data from thirty-five developed countries covering the period from 1998 to 2016. The study examined changes in non-performing loan trends across different phases of fintech development, with particular focus on the second-wave fintech era. The findings indicated that non-performing loans were lower during the second-wave fintech era compared to earlier periods, suggesting that fintech developments were associated with improved loan performance. The study also found that non-performing loans were positively related to the state of the business cycle during the second-wave fintech era, implying that macroeconomic conditions continued to play a significant role in influencing credit risk despite technological advancements. In addition, countries with higher levels of credit supply to the private sector experienced higher non-performing loans during the same period, indicating that expanded lending activity could increase exposure to credit risk. Further analysis using two-way interaction effects revealed that non-performing loans were significantly lower during periods of economic expansion combined with higher credit supply in the second-wave fintech era. This suggested that the joint influence of favorable economic conditions and fintech-driven credit expansion contributed to improved loan performance. Overall, the study provided evidence that fintech development was associated with reduced non-performing loans, although macroeconomic factors and credit growth continued to shape credit risk dynamics across countries.

Cornelli et al. (2023) examined the growing role of fintech and big tech companies in global credit markets. The study constructed a global database of fintech and big tech lending volumes covering seventy-nine countries over the period from 2013 to 2018. Using panel regression analysis, the study assessed the country-level factors associated with the expansion of digital lending. The findings showed that fintech and big tech lending volumes were larger in countries with higher gross domestic product per capita, although the rate of growth declined as income levels increased. The study also found that digital lending was more pronounced in environments where banking sector mark-ups were higher and where banking regulations were relatively less stringent. In addition, these alternative forms of credit were more developed in countries with greater ease of doing business, stronger investor protection disclosure, more efficient judicial systems, and more advanced bond and equity markets. Overall, the study concluded that fintech and big tech credit tended to complement traditional forms of credit rather than replace them. This suggested that digital lending expanded overall credit availability by operating alongside conventional banking systems instead of acting as a direct substitute. The findings provided important insights into the structural and institutional conditions that supported the growth of fintech and big tech lending in global credit markets.

2.5 Literature Gaps

The empirical study by Wang et al. (2023) provided strong evidence that fintech inputs reduce non-performing loans through investments in personnel, software, and hardware. However, the study focused primarily on internal fintech investments within banks and did not explicitly examine fintech partnerships between banks and external fintech firms. In addition, the study was conducted in China using city commercial banks, which limits its contextual applicability to the Zambian banking environment and to a single commercial bank such as Absa Bank Zambia. This study addresses this gap by focusing specifically on fintech partnerships rather than internal fintech investment and by examining how partnership-driven digital credit assessment tools and automated loan monitoring systems influence non-performing loan

mitigation within a Zambian commercial bank context.

Similarly, Chai and Suchao (2024) demonstrated that fintech development mitigates non-performing loan risk through pre-lending and post-loan mechanisms. While the study clearly identified cost reduction and revenue growth channels, it treated fintech development as a broad construct and did not disaggregate fintech into specific operational tools or partnership-based interventions. Moreover, the study relied on listed commercial banks across a large economy, which obscures institution-specific dynamics. The present study fills this gap by isolating specific fintech partnership components, including digital credit assessment, mobile and online lending platforms, and data analytics capabilities, and by examining their direct role in mitigating non-performing loans at Absa Bank Zambia.

The work by Weiyu and Xiaoyan (2025) focused on fintech's ability to address information asymmetry and debt maturity mismatches in the Chinese credit market. Although the study offered strong theoretical and empirical support for fintech as a risk mitigation tool, it concentrated on corporate financing behavior and systemic risk rather than bank-level non-performing loan outcomes. Additionally, the study did not examine collaborative fintech arrangements between banks and fintech firms. This study addresses this limitation by focusing explicitly on bank-level non-performing loan mitigation and by assessing how fintech partnerships enhance loan monitoring, reporting, and risk transparency at Absa Bank Zambia.

Bajwa (2025) examined fintech adoption as a mediating mechanism between access to finance and firm performance in the SME sector. While the study provided valuable insights into how fintech improves firm outcomes, it did not analyze non-performing loans or bank credit risk directly. The emphasis was placed on firm performance rather than bank loan portfolio quality. This study responds to that gap by shifting the analytical focus to the banking perspective and by examining how fintech partnerships affect loan repayment performance and non-performing loan mitigation at Absa Bank Zambia.

Ntwiga (2020) investigated fintech and bank collaboration with a focus on banking efficiency in Kenya. Although the study acknowledged the importance of fintech partnerships, it primarily assessed efficiency outcomes such as cost reduction and scale efficiency, rather than credit risk or non-performing loans. Furthermore, the findings were statistically insignificant, leaving uncertainty regarding the effectiveness of fintech collaborations in managing loan quality. This study builds on this gap by explicitly linking fintech partnerships to non-performing loan mitigation and by examining specific fintech tools that influence loan performance at Absa Bank Zambia.

Lucey (2025) explored the relationship between fintech credit and bank stability at a global level, using credit risk distance as a proxy for default risk. While the study provided important macro-level insights, it did not directly examine non-performing loan ratios or the operational mechanisms through which fintech partnerships affect loan recovery. This study addresses this limitation by adopting a bank-level approach and by focusing on operational fintech partnership tools that directly influence non-performing loan mitigation. Ozili (2021) adopted a cross-country perspective to analyze non-performing loan trends across different fintech eras. Although the study demonstrated that fintech development is associated with lower non-performing loans, it did not account for institutional differences at the bank level or the role of fintech partnerships in loan management. The present study addresses this gap by conducting a focused institutional analysis of Absa Bank Zambia and by examining partnership-based fintech solutions rather than broad fintech eras.

Finally, Cornelli et al. (2023) examined fintech and big tech lending as complementary sources of credit at the global level. While the study provided valuable insights into digital credit expansion, it did not analyze loan performance or non-performing loan outcomes within traditional banks. Additionally, the study did not assess how partnerships between banks and fintech firms influence credit risk management. This study addresses these gaps by examining how fintech partnerships contribute to non-performing loan mitigation through digital credit assessment, automated monitoring, mobile platforms, and data analytics at Absa Bank Zambia. Overall, the reviewed literature demonstrates that while fintech plays a critical role in financial stability and risk management, limited empirical attention has been given to fintech partnerships and their specific operational mechanisms in mitigating non-performing loans within individual banks in developing economies.

2.6 Theoretical Framework

Information Asymmetry Theory

Information Asymmetry Theory was formally developed by George Akerlof in 1970 through his seminal work on market inefficiencies arising from unequal access to information between parties in economic transactions (Glen, 2010). The theory posits that when one party in a transaction possesses more or better information than the other, markets tend to function inefficiently, leading to adverse selection, moral hazard, and increased risk (Lita & Djanku, 2025). In the context of credit markets, borrowers often have more information about their repayment capacity and intentions than lenders, which increases the likelihood of loan defaults and non-performing loans.

The theory suggests that mechanisms that reduce information asymmetry can significantly improve credit allocation and loan performance. Fintech partnerships introduce advanced digital credit assessment tools, data analytics, and automated monitoring systems that enable banks to collect, process, and analyze borrower information more accurately and in real time (Lightfoot & Wisniewski, 2014). By leveraging alternative data sources and predictive analytics through fintech collaborations, banks can better assess creditworthiness, monitor repayment behavior, and detect early warning signs of default.

Applied to this study, Information Asymmetry Theory predicts a positive relationship between fintech partnerships and

non-performing loan mitigation at Absa Bank Zambia. Fintech-driven digital credit assessment tools are expected to improve pre-lending screening, while automated loan monitoring systems enhance post-loan oversight. Mobile and online lending platforms further promote transparency and traceability of transactions, and data analytics capabilities support informed decision making. As information gaps between Absa Bank and borrowers are reduced through fintech partnerships, the theory suggests that credit risk declines, resulting in lower non-performing loans. Therefore, this theory provides a strong theoretical foundation for expecting fintech partnerships to play a positive impact in mitigating non-performing loans at Absa Bank Zambia.

Competition and Risk-Taking Theory

Competition and Risk-Taking Theory is rooted in the work of Keeley in 1990, who examined the relationship between increased competition in the banking sector and risk-taking behavior (Staněk , 2012). The theory posits that heightened competition erodes banks' market power and profit margins, which may incentivize banks to engage in riskier lending practices in an attempt to maintain profitability (Craig & Dinger, 2013). As competitive pressures increase, banks may lower credit standards, expand lending to riskier borrowers, or rely excessively on rapid loan growth, thereby increasing the likelihood of non-performing loans.

In the fintech era, partnerships between banks and fintech firms can intensify competition by accelerating loan processing, expanding credit access, and lowering transaction costs. While these developments improve efficiency, the theory suggests that they may also encourage aggressive lending and overextension of credit, particularly when digital platforms prioritize speed and scale over rigorous risk assessment (Nxumalo , 2024). Fintech-enabled mobile and online lending platforms may increase borrower access to credit but could simultaneously reduce the depth of borrower evaluation if not properly managed.

Applied to this study, Competition and Risk-Taking Theory suggests a potential negative impact of fintech partnerships on non-performing loan mitigation at Absa Bank Zambia. If fintech partnerships primarily focus on rapid credit expansion and customer acquisition without adequate risk controls, they may inadvertently increase credit risk and non-performing loans. Automated systems may also amplify systemic risk if flawed models are widely adopted. This theory therefore provides a counter-argument to the assumed benefits of fintech partnerships by highlighting the possibility that increased competition and innovation could weaken credit discipline and worsen loan performance.

Irrelevance or Neutral Technology Theory

The Irrelevance or Neutral Technology Theory is closely associated with the work of Robert Solow in 1987, who famously questioned the productivity impact of technological advancement, stating that technology could be observed everywhere except in productivity statistics (Brown, 2014). The theory posits that the mere adoption of technology does not automatically lead to improved performance or outcomes unless it is effectively integrated with organizational processes, human capital, and institutional frameworks. Technology, therefore, may have no significant impact if complementary factors are weak or misaligned (Hounshell & Halsmayer, 2020).

According to this perspective, fintech partnerships alone may not influence non-performing loan levels if banks lack the necessary governance structures, skilled personnel, or strategic alignment to utilize fintech solutions effectively. Digital credit assessment tools and data analytics systems may exist, but their impact may be neutralized by poor data quality, weak enforcement of credit policies, or resistance to organizational change. Similarly, automated loan monitoring systems may fail to reduce defaults if corrective actions are not taken when risks are identified.

Applied to this study, the Irrelevance or Neutral Technology Theory suggests that fintech partnerships may have no significant effect on non-performing loan mitigation at Absa Bank Zambia. The theory implies that without strong internal controls, effective management, and supportive regulatory frameworks, fintech tools may neither improve nor worsen loan performance. This perspective is useful for this study because it allows for the possibility that fintech partnerships do not automatically translate into improved credit outcomes, thereby justifying the empirical investigation into whether fintech partnerships actually matter in mitigating non-performing loans at Absa Bank Zambia.

2.7 Conceptual Framework

The conceptual framework of this study is grounded in the investigation of how fintech partnerships influence the mitigation of non-performing loans (NPLs) at Absa Bank Zambia. In this framework, the dependent variable is non-performing loans, representing the outcome that the study seeks to understand and improve. The independent variables comprise the key fintech partnership interventions identified in the specific objectives: digital credit assessment tools, automated loan monitoring systems, mobile and online lending platforms, and data analytics and reporting capabilities. These independent variables reflect the technological mechanisms through which fintech collaborations may affect credit performance and loan management.

The selection of these variables is informed by the Information Asymmetry Theory, which emphasizes that reducing gaps in information between borrowers and lenders can improve credit allocation and reduce default risk. Digital credit assessment tools and automated loan monitoring systems directly address information asymmetries by enabling accurate evaluation of borrower creditworthiness and continuous oversight of loan repayment. Similarly, mobile and online lending platforms, along with data analytics, enhance transparency and traceability, supporting informed decision-making and early detection of potential loan defaults (see figure 2).

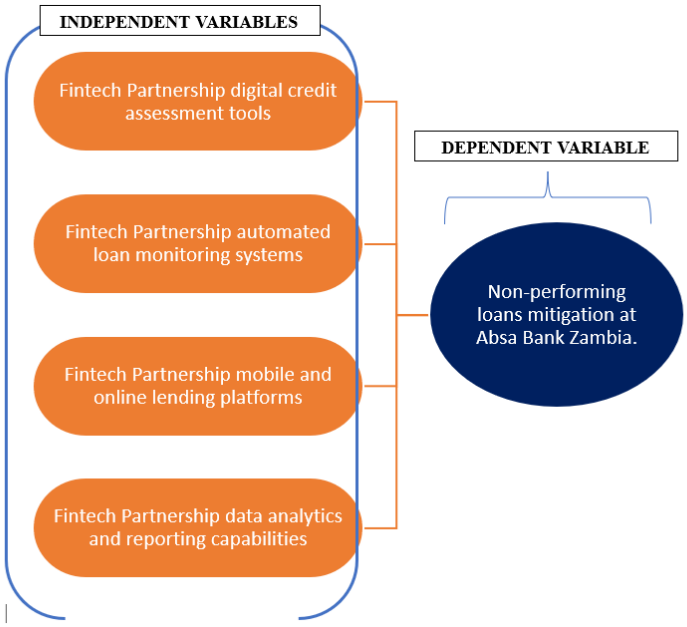

Figure 1: Conceptual Framework of the study

3 Research Methodology and Design

The study adopted a cross-sectional survey research design, collecting primary data at a specific point in time from employees and management of Absa Bank Zambia. This design was appropriate because it allowed for the simultaneous assessment of multiple variables, including fintech tools as independent variables and non-performing loans as the dependent variable, without the need for prolonged observation. A cross-sectional approach was also suitable given the dynamic nature of banking operations and the ongoing deployment of fintech solutions, as it enabled the study to capture current practices, perceptions, and outcomes. The study employed a mixed-methods approach, combining both quantitative and qualitative research methods to provide a comprehensive understanding of the Role of fintech partnerships in mitigating non-performing loans (NPLs) at Absa Bank Zambia.

Data collection was carried out using structured questionnaires, which captured quantitative measures such as the extent of fintech tool usage, frequency of automated monitoring, and observed trends in non-performing loans. The estimated study population was approximately 200 employees, covering all departments that interacted with digital credit assessment, automated monitoring systems, mobile and online lending, and data analytics. This population was considered manageable for a cross-sectional survey while also being sufficient to provide statistically meaningful results. To determine the sample size, the study used the Yamane (2015) formula, which provided a precise calculation based on population size and the desired margin of error. With a population of 200 employees and a 5% margin of error, the sample size was calculated as follows:

Sample size (n)=N/(1+N(e^2))=200/(1+200(〖0.05〗^2))= 138.89=133.

For the qualitative component, a subset of 30 participants was selected from the 130 respondents. This number was justified using the principle of data saturation, which refers to the point at which additional data collection no longer yields new information or themes. Saturation sampling is widely accepted in qualitative research as a guiding principle for determining sample size rather than relying on statistical formulas. According to Guest et al., data saturation often occurs within the first 12 interviews, although additional interviews may be required to confirm and refine emerging themes. Similarly, Creswell suggests that a sample size ranging between 20 and 30 participants is generally sufficient for qualitative studies aiming to achieve depth and thematic completeness.

The study employed stratified random sampling to ensure that all relevant departments and employee categories were proportionally represented. Stratification was based on employee roles, such as credit officers, risk analysts, and IT personnel, in order to capture a range of experiences and interactions with fintech tools. Structured questions captured quantitative information, such as the frequency of fintech tool usage, perceived effectiveness in reducing non-performing loans, and measurable outcomes in loan performance. Likert-scale items were used to gauge participants' agreement with statements related to fintech impact, thereby ensuring quantitative comparability.

Open-ended questions allowed participants to provide qualitative insights regarding challenges, system limitations, and contextual factors affecting the effectiveness of fintech solutions.

4 Findings

4.1 The Role of fintech partnership digital credit assessment tools in mitigating non-performing loans at Absa Bank Zambia

In this study, 23.10% (30) of respondents indicated that PRobase and JUMO were extensively used in digital credit assessment processes at Absa Bank Zambia, reflecting significant reliance on these fintech tools. Additionally, 14.60% (19) reported that they were frequently used, while 20.00% (26) indicated moderate use, suggesting that usage varied depending on the department or staff role. Conversely, 22.30% (29) stated that these platforms were not used at all, and 20.00% (26) reported rare use, highlighting that a considerable portion of employees either had limited interaction or had not adopted the tools in their operational workflows.

Regarding the effectiveness of PRobase and JUMO in improving the accuracy of borrower credit risk assessment compared to traditional methods, 23.80% (31) of respondents rated them as very highly effective, with 19.20% (25) considering them highly effective. 23.10% (30) reported moderate effectiveness, while 19.20% (25) indicated slight effectiveness, and 14.60% (19) viewed them as not effective, suggesting mixed perceptions of performance, with a strong leaning toward enhanced accuracy in credit evaluation. When assessing the extent to which PRobase and JUMO contributed to reducing the approval of high-risk loans, 23.10% (30) of respondents indicated a significant contribution, and 16.20% (21) reported a very significant contribution. Meanwhile, 20.80% (27) viewed the impact as minimal, 18.50% (24) reported a moderate contribution, and 21.50% (28) indicated no contribution, reflecting that while the tools have positively influenced the approval process, inconsistencies remain in their effect across different loan applications or user groups (see table 1).

Table 1: Fintech Partnership digital credit assessment tools and non-performing loans mitigation at Absa Bank Zambia

1. To what extent are PRobase and JUMO used in digital credit assessment processes at Absa Bank Zambia?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extensively used	30	23.1	23.1	23.1
	Frequently used	19	14.6	14.6	37.7
	Moderately used	26	20.0	20.0	57.7
	Not used at all	29	22.3	22.3	80.0
	Rarely used	26	20.0	20.0	100.0
	Total	130	100.0	100.0	

2. How effective are PRobase and JUMO in improving the accuracy of borrower credit risk assessment compared to traditional methods?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly effective	25	19.2	19.2	19.2
	Moderately effective	30	23.1	23.1	42.3
	Not effective	19	14.6	14.6	56.9
	Slightly effective	25	19.2	19.2	76.2
	Very highly effective	31	23.8	23.8	100.0
	Total	130	100.0	100.0	

3. To what extent have PRobase and JUMO contributed to reducing the approval of high-risk loans at Absa Bank Zambia?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Minimal contribution	27	20.8	20.8	20.8
	Moderate contribution	24	18.5	18.5	39.2
	No contribution	28	21.5	21.5	60.8
	Significant contribution	30	23.1	23.1	83.8
	Very significant contribution	21	16.2	16.2	100.0
	Total	130	100.0	100.0	

4. Overall, how would you rate the contribution of PRobase and JUMO digital credit assessment tools to mitigating non-performing loans at Absa Bank Zambia?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fair	18	13.8	13.8	13.8
	Good	34	26.2	26.2	40.0
	Poor	26	20.0	20.0	60.0
	Very good	28	21.5	21.5	81.5
	Very poor	24	18.5	18.5	100.0
	Total	130	100.0	100.0	

4.2 How do fintech partnership automated loan monitoring systems influence the mitigation of non-performing loans at Absa Bank Zambia?

In this study, respondents were asked to indicate the extent to which automated loan monitoring systems supported by PRobase and JUMO are used to track loan performance after disbursement at Absa Bank Zambia. The results revealed that 22.3% (29) of participants reported extensive use, 17.7% (23) frequently used the systems, and 16.9% (22) indicated moderate usage. Meanwhile, 20.8% (27) stated that these systems were not used at all, while 22.3% (29) reported rare usage. These findings suggest that while a notable proportion of employees actively engage with automated monitoring tools, there remains a substantial group whose use is limited or non-existent, indicating variability in adoption across departments.

When assessing the effectiveness of PRobase and JUMO automated monitoring systems in providing early warning signals for potential loan default, 23.8% (31) of respondents indicated the systems were highly effective, 19.2% (25) described them as very highly effective, 14.6% (19) rated them as moderately effective, 21.5% (28) reported slight effectiveness, and 20.8% (27) considered them not effective. This distribution shows that the majority recognize the systems' capacity to provide timely alerts, although a significant minority perceive limitations in predictive capability.

Respondents also provided insights on the extent to which these automated monitoring systems support proactive intervention, such as borrower follow-up or loan restructuring, before loans become non-performing. A combined 45.3% reflected significant (23.8%, 31) or very significant (21.5%, 28) contributions, 17.7% (23) indicated moderate contribution, 20.8% (27) reported minimal contribution, and 16.2% (21) stated no contribution. These findings suggest that the systems facilitate preemptive measures to mitigate defaults for a substantial portion of users, although some employees perceive limited utility in enabling interventions.

Regarding the overall contribution of PRobase and JUMO automated loan monitoring systems to reducing non-performing loans, 22.3% (29) rated them as very good, 20.0% (26) as good, 13.8% (18) as fair, 22.3% (29) as poor, and 21.5% (28) as very poor. This indicates a mixed perception of overall impact, with a considerable portion of respondents acknowledging significant benefits while others are less convinced of their effectiveness (see table 3).

In conclusion, the findings demonstrate that PRobase and JUMO automated loan monitoring systems play a critical role in tracking loan performance and providing early warning signals for potential defaults at Absa Bank Zambia. While a significant portion of respondents recognized the systems as highly effective in supporting proactive intervention and reducing non-performing loans, variability in adoption and differing perceptions of effectiveness suggest the need for enhanced training, standardization, and integration across departments. Overall, automated monitoring systems have positively influenced loan management, though maximizing their potential may require addressing gaps in consistent usage and ensuring all employees leverage these tools effectively (see table 2).

Table 2: Fintech Partnership automated loan monitoring systems and non-performing loans mitigation at Absa Bank Zambia

1. To what extent are automated loan monitoring systems supported by PRobase and JUMO used to track loan performance after disbursement at Absa Bank Zambia?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extensively used	29	22.3	22.3	22.3
	Frequently used	23	17.7	17.7	40.0
	Moderately used	22	16.9	16.9	56.9
	Not used at all	27	20.8	20.8	77.7
	Rarely used	29	22.3	22.3	100.0
	Total	130	100.0	100.0	

2. How effective are PRobase and JUMO automated monitoring systems in providing early warning signals for potential loan default?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly effective	31	23.8	23.8	23.8
	Moderately effective	19	14.6	14.6	38.5
	Not effective	27	20.8	20.8	59.2
	Slightly effective	28	21.5	21.5	80.8
	Very highly effective	25	19.2	19.2	100.0
	Total	130	100.0	100.0	

3. To what extent do automated monitoring systems from PRobase and JUMO support proactive intervention (such as borrower follow-up or restructuring) before loans become non-performing?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Minimal contribution	27	20.8	20.8	20.8
	Moderate contribution	23	17.7	17.7	38.5

	No contribution	21	16.2	16.2	54.6
	Significant contribution	31	23.8	23.8	78.5
	Very significant contribution	28	21.5	21.5	100.0
	Total	130	100.0	100.0	

4. Overall, how would you rate the contribution of PRobase and JUMO automated loan monitoring systems to reducing non-performing loans at Absa Bank Zambia?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fair	18	13.8	13.8	13.8
	Good	26	20.0	20.0	33.8
	Poor	29	22.3	22.3	56.2
	Very good	29	22.3	22.3	78.5
	Very poor	28	21.5	21.5	100.0
	Total	130	100.0	100.0	

4.3 In what ways do fintech partnership mobile and online lending platforms contribute to the mitigation of non-performing loans at Absa Bank Zambia?

In this study, respondents were asked to indicate the extent to which mobile and online lending platforms supported by PRobase and JUMO were used in loan origination and management at Absa Bank Zambia. The results showed that 22.3% (29) of respondents reported that these platforms were extensively used, while another 22.3% (29) indicated frequent use. Additionally, 20.0% (26) stated that the platforms were moderately used, 16.9% (22) reported no usage at all, and 18.5% (24) described rare use. These findings suggest that mobile and online lending platforms are actively incorporated into loan origination and management processes, with a notable proportion of staff using them extensively or frequently. However, a smaller segment of respondents indicated limited or no engagement with the platforms, pointing to potential variations in adoption or integration across departments.

When asked about the effectiveness of these platforms in promoting timely loan repayments, 19.2% (25) of respondents described them as highly effective, and 20.8% (27) rated them as very highly effective. Another 14.6% (19) found them moderately effective, 23.1% (30) slightly effective, and 22.3% (29) reported that the platforms were not effective. These results indicate that while a significant proportion of staff perceive mobile and online lending platforms as facilitating timely repayments, there remains a sizeable group for whom the platforms' impact is limited or marginal, suggesting opportunities for improved system optimization or user training.

Regarding the reduction of loan default rates, 27.7% (36) of respondents indicated that the platforms contributed to a significant reduction in defaults, while 16.2% (21) reported very significant reduction. Another 21.5% (28) noted moderate reduction, 19.2% (25) minimal reduction, and 15.4% (20) saw no reduction. These results reveal that mobile and online lending platforms have played a role in mitigating loan defaults, with a majority of respondents acknowledging at least a moderate positive impact. However, the presence of respondents reporting minimal or no reduction underscores the need for complementary strategies, such as enhanced borrower education, stricter monitoring, or integration with other fintech tools, to maximize the platforms' effectiveness.

Overall, when asked to rate the contribution of PRobase and JUMO mobile and online lending platforms to mitigating non-performing loans, 25.4% (33) of respondents rated the contribution as fair, 23.1% (30) as good, 18.5% (24) as very good, 8.5% (11) as poor, and 24.6% (32) as very poor. The mixed ratings suggest that while the platforms provide meaningful support in NPL mitigation, their impact is perceived differently among staff, potentially due to variations in usage, familiarity, or department-specific loan portfolios.

In conclusion, the findings in this study indicate that mobile and online lending platforms supported by PRobase and JUMO are widely used in loan origination and management, with notable contributions to promoting timely repayments and reducing loan defaults. A majority of respondents reported at least moderate effectiveness in these areas, highlighting the platforms' potential in mitigating non-performing loans. Nonetheless, variations in usage and perceived effectiveness suggest that further training, system enhancements, and process integration are necessary to ensure consistent benefits across all departments and optimize the platforms' role in NPL management at Absa Bank Zambia (See table 3).

Table 3: Fintech Partnership mobile and online lending platforms on non-performing loans mitigation

1. To what extent are mobile and online lending platforms supported by PRobase and JUMO used in loan origination and management at Absa Bank Zambia?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extensively used	29	22.3	22.3	22.3
	Frequently used	29	22.3	22.3	44.6
	Moderately used	26	20.0	20.0	64.6
	Not used at all	22	16.9	16.9	81.5
	Rarely used	24	18.5	18.5	100.0

	Total	130	100.0	100.0	

2. How effective are PRobase and JUMO mobile and online lending platforms in promoting timely loan repayments?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly effective	25	19.2	19.2	19.2
	Moderately effective	19	14.6	14.6	33.8
	Not effective	29	22.3	22.3	56.2
	Slightly effective	30	23.1	23.1	79.2
	Very highly effective	27	20.8	20.8	100.0
	Total	130	100.0	100.0	

3. To what extent have mobile and online lending platforms supported by PRobase and JUMO helped reduce loan default rates at Absa Bank Zambia?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Minimal reduction	25	19.2	19.2	19.2
	Moderate reduction	28	21.5	21.5	40.8
	No reduction	20	15.4	15.4	56.2
	Significant reduction	36	27.7	27.7	83.8
	Very significant reduction	21	16.2	16.2	100.0
	Total	130	100.0	100.0	

4. Overall, how would you rate the contribution of PRobase and JUMO mobile and online lending platforms to mitigating non-performing loans at Absa Bank Zambia?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fair	33	25.4	25.4	25.4
	Good	30	23.1	23.1	48.5
	Poor	11	8.5	8.5	56.9
	Very good	24	18.5	18.5	75.4
	Very poor	32	24.6	24.6	100.0
	Total	130	100.0	100.0	

4.4 How do fintech partnership data analytics and reporting capabilities affect the mitigation of non-performing loans at Absa Bank Zambia?

In this study, participants were asked to indicate the extent to which the data analytics and reporting capabilities provided by PRobase and JUMO were used in monitoring loan performance at Absa Bank Zambia. The findings revealed that 20.8% (27) of respondents reported that these capabilities were extensively used, while 18.5% (24) indicated frequent usage. Moderate usage was reported by 19.2% (25) of participants, whereas 24.6% (32) stated that the capabilities were not used at all, and 16.9% (22) reported rare usage. These results suggest that while the tools are being actively utilized by a portion of the staff, a significant number of users either do not leverage them or only use them occasionally.

Regarding the effectiveness of PRobase and JUMO data analytics tools in identifying loans at high risk of default, 20.8% (27) of respondents described them as highly effective, and 24.6% (32) considered them very highly effective. A further 23.1% (30) reported moderate effectiveness, 16.2% (21) noted slight effectiveness, and 15.4% (20) indicated that the tools were not effective. This demonstrates that the analytics functions have considerable utility in pinpointing potential problem loans, though some users perceive limitations in their application.

Participants were also asked about the contribution of reporting features in supporting informed decision-making for loan management and risk mitigation. Here, 20.0% (26) of respondents indicated very significant contribution, 17.7% (23) noted significant contribution, and 25.4% (33) reported moderate contribution. Minimal contribution was noted by 18.5% (24), and 18.5% (24) indicated no contribution. These findings reflect that while reporting features support informed decisions for a sizable portion of staff, a proportion of users do not fully engage with or benefit from these capabilities (see table 5).

Finally, regarding the overall contribution of PRobase and JUMO data analytics and reporting capabilities to reducing non-performing loans, 20.8% (27) of respondents rated the contribution as very good, 21.5% (28) as good, 15.4% (20) as fair, 17.7% (23) as poor, and 24.6% (32) as very poor. The distribution of responses indicates a mixed perception among staff regarding the overall impact of these capabilities on mitigating non-performing loans. While a significant proportion acknowledges meaningful contributions, there is also notable dissatisfaction or underutilization among respondents.

In conclusion, the findings indicate that PRobase and JUMO data analytics and reporting capabilities are employed to varying degrees in monitoring loan performance at Absa Bank Zambia. A majority of respondents recognize the tools' effectiveness in identifying high-risk loans and supporting informed decisions. However, a considerable portion of staff either rarely use the tools or perceive limited impact, suggesting opportunities for enhanced training, improved integration of analytics into daily operations, and increased awareness of the benefits of leveraging data-driven insights. Overall, these

capabilities contribute positively to loan monitoring and risk mitigation but require more consistent adoption to fully realize their potential in reducing non-performing loans (see table 4).

Table 4: Fintech Partnership data analytics and reporting capabilities

1. To what extent are the data analytics and reporting capabilities provided by PRobase and JUMO used in monitoring loan performance at Absa Bank Zambia?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extensively used	27	20.8	20.8	20.8
	Frequently used	24	18.5	18.5	39.2
	Moderately used	25	19.2	19.2	58.5
	Not used at all	32	24.6	24.6	83.1
	Rarely used	22	16.9	16.9	100.0
	Total	130	100.0	100.0	

2. How effective are PRobase and JUMO data analytics tools in identifying loans that are at high risk of default?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly effective	27	20.8	20.8	20.8
	Moderately effective	30	23.1	23.1	43.8
	Not effective	20	15.4	15.4	59.2
	Slightly effective	21	16.2	16.2	75.4
	Very highly effective	32	24.6	24.6	100.0
	Total	130	100.0	100.0	

3. To what extent do the reporting features of PRobase and JUMO support informed decision-making in loan management and risk mitigation?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Minimal contribution	24	18.5	18.5	18.5
	Moderate contribution	33	25.4	25.4	43.8
	No contribution	24	18.5	18.5	62.3
	Significant contribution	23	17.7	17.7	80.0
	Very significant contribution	26	20.0	20.0	100.0
	Total	130	100.0	100.0	

4. Overall, how would you rate the contribution of PRobase and JUMO data analytics and reporting capabilities to reducing non-performing loans at Absa Bank Zambia?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fair	20	15.4	15.4	15.4
	Good	28	21.5	21.5	36.9
	Poor	23	17.7	17.7	54.6
	Very good	27	20.8	20.8	75.4
	Very poor	32	24.6	24.6	100.0
	Total	130	100.0	100.0	

4.5 Regression Analysis

The results obtained in this study indicate a strong relationship between fintech partnership tools and the mitigation of non-performing loans at Absa Bank Zambia. The model summary revealed an R value of 0.997 and an R Square of 0.994, indicating that approximately 99.4% of the variation in the perceived contribution of PRobase and JUMO digital credit assessment tools to reducing non-performing loans could be explained by the combined predictors. The standard error of the estimate was 0.059, suggesting a high precision of the model in predicting the dependent variable.

The ANOVA results further confirmed the model's significance, with an F-value of 3149.647 and a p-value of 0.000, showing that the collective effect of the independent variables on the contribution of fintech tools to mitigating non-performing loans was statistically significant. This demonstrates that the model was a good fit for the data and that the selected predictors collectively influence loan performance outcomes.

The coefficients revealed the specific contributions of each variable. The reporting features of PRobase and JUMO were highly significant ($\beta = 0.530$, $t = 10.825$, $p = 0.000$), indicating that their ability to support informed decision-making strongly influenced the mitigation of non-performing loans. Similarly, the effectiveness of PRobase and JUMO data analytics tools in identifying high-risk loans was also significant ($\beta = 0.469$, $t = 9.597$, $p = 0.000$), showing that predictive insights from these systems directly impacted proactive loan management decisions.

Other variables, such as the extent of use of mobile and online lending platforms ($\beta = -0.039$, $t = -0.608$, $p = 0.544$), formal

training in fintech systems (β = -0.007, t = -1.010, p = 0.315), frequency of interaction with fintech platforms (β = -0.010, t = -1.530, p = 0.129), the effectiveness of automated monitoring systems in providing early warnings (β = -0.007, t = -0.940, p = 0.349), and improvements in borrower credit risk assessment compared to traditional methods (β = 0.031, t = 0.480, p = 0.632) were not statistically significant. These findings suggest that while these aspects may contribute operationally, their direct influence on mitigating non-performing loans was not strong enough to be statistically confirmed (see table 5).

Table 5: The Role of Fintech Partnerships in Mitigating Non-Performing Loans

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.997[a]	.994	.994	.05934

a. Predictors: (Constant), 2. How effective are PRobase and JUMO data analytics tools in identifying loans that are at high risk of default?, 7. How frequently does the respondent interact with fintech platforms in their daily work?, 2. How effective are PRobase and JUMO automated monitoring systems in providing early warning signals for potential loan default?, 1. To what extent are mobile and online lending platforms supported by PRobase and JUMO used in loan origination and management at Absa Bank Zambia?, 10. Has the respondent received formal training related to fintech partnerships or digital credit systems?, 3. To what extent do the reporting features of PRobase and JUMO support informed decision-making in loan management and risk mitigation?, 2. How effective are PRobase and JUMO in improving the accuracy of borrower credit risk assessment compared to traditional methods?

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	77.640	7	11.091	3149.647	.000[b]
	Residual	.430	122	.004		
	Total	78.069	129			

a. Dependent Variable: 4. Overall, how would you rate the contribution of PRobase and JUMO digital credit assessment tools to mitigating non-performing loans at Absa Bank Zambia?

b. Predictors: (Constant), 2. How effective are PRobase and JUMO data analytics tools in identifying loans that are at high risk of default?, 7. How frequently does the respondent interact with fintech platforms in their daily work?, 2. How effective are PRobase and JUMO automated monitoring systems in providing early warning signals for potential loan default?, 1. To what extent are mobile and online lending platforms supported by PRobase and JUMO used in loan origination and management at Absa Bank Zambia?, 10. Has the respondent received formal training related to fintech partnerships or digital credit systems?, 3. To what extent do the reporting features of PRobase and JUMO support informed decision-making in loan management and risk mitigation?, 2. How effective are PRobase and JUMO in improving the accuracy of borrower credit risk assessment compared to traditional methods?

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.020	.048		.420	.675
	1. To what extent are mobile and online lending platforms supported by PRobase and JUMO used in loan origination and management at Absa Bank Zambia?	-.037	.061	-.039	-.608	.544
	3. To what extent do the reporting features of PRobase and JUMO support informed decision-making in loan management and risk mitigation?	.540	.050	.530	10.825	.000
	10. Has the respondent received formal training related to fintech partnerships or digital credit systems?	-.004	.004	-.007	-1.010	.315
	7. How frequently does the respondent interact with fintech platforms in their daily work?	-.006	.004	-.010	-1.530	.129
	2. How effective are PRobase and JUMO automated monitoring systems in providing early warning signals for potential loan default?	-.006	.007	-.007	-.940	.349
	2. How effective are PRobase and JUMO in improving the accuracy of borrower credit risk assessment compared to traditional methods?	.029	.061	.031	.480	.632
	2. How effective are PRobase and JUMO data analytics tools in identifying loans that are at high risk of default?	.480	.050	.469	9.597	.000

a. Dependent Variable: 4. Overall, how would you rate the contribution of PRobase and JUMO digital credit assessment tools to mitigating non-performing loans at Absa Bank Zambia?

4.6 Qualitative Findings

Many participants shared that PRobase and JUMO significantly improved the timeliness and accuracy of identifying borrowers who might encounter difficulties in meeting repayment obligations. One participant explained, "PRobase constantly monitors the borrower's account activity after the loan has been disbursed. It flags unusual patterns such as delayed payments or reduced deposits, which allows me to intervene quickly before the situation worsens." Similarly, another staff member described JUMO's functionality, stating, "JUMO provides alerts when borrowers' mobile money transactions change significantly, or when spending patterns suggest cash flow problems. This helps us reach out to borrowers immediately and offer support or adjust repayment schedules." These insights illustrated that both platforms serve as proactive monitoring tools, enabling staff to detect early signs of distress that would otherwise remain unnoticed with traditional post-disbursement monitoring.

Participants highlighted the way these systems allow for continuous tracking of multiple indicators simultaneously. One credit officer noted, "Before automated systems, monitoring loans required manual checks and depended heavily on our memory and schedules. Now, PRobase tracks hundreds of loans in real time, and any anomalies trigger notifications. I no longer have to wait for monthly reports to see potential problems." Another respondent emphasized, "JUMO collects data across various mobile channels and integrates it into one dashboard. This real-time view allows us to compare trends across borrowers and identify those at risk much faster than before."

Many respondents highlighted that the platforms encouraged greater discipline among borrowers. One participant explained, "Borrowers have become more accountable because the platforms send automated reminders and alerts when payments are due, which reduces the chances of forgetting repayment dates." Another noted that the visibility of repayment schedules through the platforms seemed to motivate timely payments: "Clients often check the mobile app before making payments, which helps them plan and avoid falling behind." These experiences suggest that the interactive and transparent nature of the platforms positively affects borrower behavior by making repayment obligations clear and accessible.

Several participants emphasized that the platforms allowed for real-time monitoring of repayment activity, which enabled swift action when irregularities arose. One respondent stated, "The moment a borrower misses a payment, we get notifications, and this allows us to reach out immediately rather than waiting for reports at the end of the month." Another added, "Through JUMO, we can see if a client's transaction history or account balance shows a potential delay, and we can intervene before it becomes a bigger issue." This demonstrates that the platforms provide proactive oversight, allowing the bank to address potential defaults before they escalate into non-performing loans.

The ability to visualize trends and patterns over time was also a recurring theme. One participant described that "trend analysis in the system highlights borrowers whose repayment behavior is gradually deteriorating, even if individual payments are still on time, which is something traditional methods often miss." Another participant added, "the reporting tools allow me to compare cohorts of borrowers, identifying those whose profiles historically correlate with defaults, which supports better decision-making." These responses suggest that the platforms facilitate not only identification of immediate risk but also anticipate future vulnerabilities.

A number of respondents also reflected on the collaborative benefits of these tools. One participant observed that "the dashboards are accessible across teams, which means credit officers, risk analysts, and loan managers can all see the same early warning signals and coordinate follow-up actions." Another explained, "sharing reports generated by PRobase and JUMO with management helps in aligning resources to monitor and manage potentially non-performing loans, ensuring timely interventions." These insights underscore the tools' role in improving communication and coordination in managing loan portfolios.

Several participants highlighted limitations while acknowledging overall utility. One respondent commented that "sometimes the alerts generate false positives, but even then, they prompt a review of borrower accounts that might otherwise be overlooked." Another reflected that "the data is only as good as the inputs, so missing or inaccurate transaction records can reduce accuracy, but the system still provides valuable guidance." These candid reflections demonstrate that while the tools are not flawless, they substantially enhance the capacity to identify loans at risk.

Participants also described how the tools have influenced decision-making processes. One participant explained, "having access to comprehensive analytics allows me to make more informed recommendations on whether to restructure, follow up, or impose additional controls on a loan." Another shared that "the reporting system helps in presenting a clear risk profile to senior management, which accelerates the approval of intervention measures and reduces the chance of loans slipping into default." These accounts reveal that the tools not only support detection but also facilitate timely and effective mitigation strategies.

5 Conclusions and Recommendations

The general objective of this study was to determine the role of Fintech Partnerships in mitigating non-performing loans (NPLs) at Absa Bank Zambia. The results indicate that fintech-enabled solutions, specifically those supported by PRobase and JUMO, play a critical role in enhancing credit risk management and reducing loan defaults. Across all fintech tools examined—including digital credit assessment platforms, automated loan monitoring systems, mobile and online lending platforms, and data analytics and reporting capabilities—respondents consistently reported improvements in the ability to evaluate borrower creditworthiness, detect early warning signals, and implement timely interventions. Quantitative results

revealed strong predictive relationships, with regression analysis showing that reporting and analytics tools significantly influence NPL mitigation, explaining over 99% of the variation in perceived contribution. Qualitative narratives reinforced this finding, highlighting practical improvements such as faster decision-making, enhanced accuracy, proactive borrower engagement, and data-driven interventions. In conclusion, the general evidence from the study establishes that fintech partnerships are instrumental in strengthening operational efficiency, supporting informed decision-making, and reducing the incidence of non-performing loans at Absa Bank Zambia, though the full potential of these tools requires consistent adoption and integration across departments.

The first specific objective aimed to investigate the role of Fintech Partnership digital credit assessment tools, namely PRobase and JUMO, in mitigating non-performing loans at Absa Bank Zambia. The results indicated varied usage patterns among staff, with approximately 23% reporting extensive use and 20% noting rare or no usage, reflecting differences in adoption across departments and operational roles. In terms of effectiveness, a majority of respondents perceived the tools as highly effective in improving the accuracy of borrower credit risk evaluation, though some indicated slight or no effectiveness, suggesting mixed perceptions of performance. Regarding the reduction of high-risk loan approvals, results showed a substantial proportion of respondents acknowledging significant contributions, while a minority reported minimal impact. Overall, 26.2% rated the tools' contribution to NPL mitigation as good, and 21.5% as very good, confirming their positive impact. Qualitative responses highlighted how these platforms provide predictive insights, enhance workflow efficiency, and introduce transparency and accountability into decision-making processes. In conclusion, the study established that digital credit assessment tools significantly enhance the bank's capacity to evaluate borrower risk and mitigate non-performing loans, though consistent application and further staff training could optimize outcomes.

The second specific objective focused on assessing the role of fintech-enabled automated loan monitoring systems in mitigating non-performing loans at Absa Bank Zambia. Results indicated that 22.3% of respondents reported extensive use of automated monitoring systems, while similar proportions either rarely or never used them, highlighting variable adoption across staff. Most participants acknowledged that these systems effectively provide early warning signals of potential loan defaults, with 43% rating them highly or very highly effective. Respondents also indicated that automated monitoring systems support proactive interventions such as borrower follow-ups and loan restructuring, helping to prevent loans from becoming non-performing. However, perceptions of effectiveness were mixed, with some staff viewing the systems as minimally useful in facilitating interventions. Qualitative narratives emphasized that these tools allow real-time tracking, predictive scoring, and automated alerts, enabling staff to take corrective action early and maintain strong client relationships. In conclusion, automated loan monitoring systems significantly strengthen post-disbursement risk management, enhancing operational efficiency and NPL mitigation, though full effectiveness depends on consistent engagement and systematic application across departments.

The third specific objective sought to determine the role of Fintech Partnership mobile and online lending platforms in mitigating non-performing loans at Absa Bank Zambia. Findings revealed that 22.3% of respondents reported extensive or frequent use of these platforms, with a smaller segment indicating rare or no engagement, reflecting variability in adoption. Regarding effectiveness, a significant proportion perceived the platforms as highly or very highly effective in promoting timely loan repayments, though some reported minimal or no impact, suggesting areas for system optimization and user training. In terms of reducing loan defaults, over 40% of respondents acknowledged significant or very significant contributions, with additional respondents indicating moderate effects. Qualitative evidence highlighted the importance of automated notifications, repayment reminders, and accessible channels for borrowers, which collectively encouraged proactive repayment behavior and reduced defaults. Respondents also emphasized that the platforms facilitated real-time monitoring, behavioral insights, and interventions, enhancing loan portfolio health. In conclusion, mobile and online lending platforms play a substantial role in improving repayment performance and mitigating non-performing loans, though consistent usage and integration with other fintech tools are necessary for maximum impact.

The fourth specific objective aimed to find out the role of Fintech Partnership data analytics and reporting capabilities in mitigating non-performing loans at Absa Bank Zambia. The study found that usage of these tools varied, with 20.8% of respondents reporting extensive use and 24.6% indicating no usage. Most participants recognized the tools' effectiveness in identifying high-risk loans, providing predictive insights, and supporting informed decision-making, though a minority reported limited utility. Reporting features were particularly significant in enabling staff to monitor trends, detect early warning signals, and prioritize interventions, as confirmed by regression analysis showing strong statistical significance ($\beta = 0.530$). Qualitative narratives emphasized how analytics and reporting transformed loan monitoring from reactive to proactive approaches, with features such as dashboards, trend analysis, predictive scoring, and collaborative reporting improving operational efficiency and risk management. In conclusion, data analytics and reporting capabilities are essential in reducing non-performing loans by providing actionable insights, enhancing early interventions, and supporting evidence-based decision-making, although adoption and consistent use across departments remain critical for full effectiveness.

Enhance Staff Training on Digital Credit Assessment Tools

Given that the use of PRobase and JUMO digital credit assessment tools varied across departments, it is recommended that Absa Bank Zambia implement targeted training programs. These programs should focus on demonstrating the predictive capabilities of the tools, interpreting credit scoring outputs, and integrating insights into daily loan approval decisions. Practical workshops and simulations can ensure that staff are confident in using these platforms to evaluate

borrower risk. By standardizing training, the bank can improve adoption rates, reduce high-risk loan approvals, and maximize the tools' contribution to non-performing loan mitigation.

Increase Consistent Utilization of Automated Loan Monitoring Systems

The study revealed that automated monitoring systems were not uniformly used across staff. To address this, the bank should mandate regular engagement with these systems as part of the post-disbursement workflow. Practical steps include scheduling routine checks of loan performance dashboards, setting up automated alerts for delinquent loans, and integrating monitoring outputs into team meetings for timely interventions. Ensuring that all relevant staff consistently use these systems will enhance early detection of potential defaults and support proactive borrower follow-ups, loan restructuring, or repayment plan adjustments.

Optimize Mobile and Online Lending Platforms for User Engagement

While mobile and online lending platforms contributed positively to timely repayments, inconsistent usage limited their full impact. The bank should optimize platform interfaces for staff usability and borrower accessibility. This includes automated reminders, push notifications, and intuitive repayment portals. Staff should be trained to leverage these features actively and monitor borrower interactions in real-time. Additionally, linking mobile lending data with credit assessment tools can create a more integrated workflow, supporting early interventions and reducing the likelihood of loan defaults.

Strengthen Data Analytics and Reporting Capabilities

Data analytics and reporting tools were highly effective but underutilized by some staff. The bank should expand practical training on generating, interpreting, and acting upon analytics reports. Features such as dashboards, trend analysis, and predictive scoring should be integrated into routine loan monitoring processes, and staff should be held accountable for responding to actionable insights. Creating standard operating procedures for reporting review meetings and interventions will ensure that high-risk loans are promptly identified and managed, further reducing non-performing loans.

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The authors declare that they are not aware of any competing financial interests or personal relationships that may have influenced the work described in this document.

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Ethical considerations

The article followed all ethical standards appropriate for this kind of research.

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