

# Evaluating the Impact of Credit Risk Mitigation Strategies on Institutional Profitability: Empirical Evidence from Indo-Zambia Bank Limited

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**Abstract:** Banks are fundamental to economic growth, yet their profitability remains intrinsically linked to the efficacy of their credit risk management (CRM). History, from the 2008 global financial crisis to recent high-profile failures like Silicon Valley Bank (2023) and Investrust Bank (2024), underscores that weak CRM can destabilize institutions and erode financial performance. This study examines the impact of CRM practices on the profitability of Indo-Zambia Bank, employing an explanatory sequential mixed-methods design. Quantitative analysis of financial records and staff perceptions was integrated with qualitative insights from bank personnel to provide a holistic assessment. The findings reveal a significant positive relationship between effective CRM and profitability, with the integrated CRM lifecycle, particularly monitoring and recovery, emerging as the strongest predictor. While the bank operates within a structurally sound CRM framework, its performance is mediated by critical implementation gaps, including deficiencies in staff training and inconsistent monitoring practices. Furthermore, the bank's non-performing loan (NPL) trajectory, although below the industry average, mirrors troubling sector-wide trends, suggesting that systemic challenges can potentially overwhelm internal controls. The study concludes that translating a robust risk framework into sustained profitability requires a strategic shift from policy design to operationally seamless execution. It offers actionable recommendations for strengthening post-approval monitoring, investing in early-warning technologies, and enhancing recovery mechanisms to fortify the bank's financial resilience.

**Keywords:** Credit Risk Management, Bank Profitability, Non-Performing Loans, Emerging Markets.

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## I. INTRODUCTION

The financial sector is pivotal to economic stability, with banks facilitating capital allocation and risk management. Their sustainability is critically influenced by credit risk, the possibility of borrower default. For a typical commercial bank, this risk is existential, given that interest income from loans and advances constitutes overwhelmingly to both gross and operating income, accounting for over 65% of gross income and more than 35% of operating income (Bank of Zambia, 2020). As such, a bank's sustainability and profitability are directly tethered to the quality of its loan portfolio.

Globally, the failure to implement prudent credit risk management (CRM) strategies has had severe consequences, leading to the collapse of high-profile institutions during past financial crises (Li, Zou, & Lions, 2014). Recent examples, from Silicon Valley Bank (2023, USA) to regional failures like Investrust Bank (2024, Zambia), serve as stark reminders that weak CRM can erode revenue, strain liquidity, and undermine capital adequacy. As the Basel Committee on

Banking Supervision (2019) affirms, robust CRM is not merely a compliance exercise but a fundamental pillar of financial stability.

In Zambia, this importance is amplified by unique challenges. The Bank of Zambia (2023) reports a volatile aggregate non-performing loan (NPL) ratio, consistently above the prudential 10% threshold. From 11.6% in 2020, it declined to 10.9% in 2021 before rising to a projected 12.5% by 2025 due to macroeconomic pressures like inflation and currency volatility. These persistent NPLs are symptomatic of underlying credit underwriting and risk management issues.

Indo-Zambia Bank (IZB), a key player since 1984, mirrors this trend. Despite deploying advanced CRM strategies, its NPL ratio has shown modest improvement, declining from 12.2% in 2020 to 11.7% in 2021, but is projected to rise to 12.8% by 2025. This fluctuation necessitates a reassessment of its CRM framework's practical effectiveness. The earnings structure of Zambian banks, with interest income forming over 65% of gross income (Bank of

Zambia, 2020), makes them highly sensitive to loan portfolio quality. This study investigates the complex relationship between comprehensive CRM practices and profitability at IZB, filling a critical gap in the literature for the Zambian context.

#### ➤ *Problem Statement*

While credit risk management is universally recognized as a cornerstone for ensuring financial stability and enhancing bank profitability, many banks in emerging markets such as Zambia continue to grapple with the challenge of balancing stringent risk mitigation with the need to provide adequate credit. This tension is vividly illustrated by the industry's NPL performance. Between 2020 and 2025, data indicates that the aggregate non-performing loan ratio for Zambian banks has exhibited considerable volatility. In 2020, the industry-wide NPL ratio stood at approximately 11.6%, declining to around 10.9% in 2021. However, subsequent macroeconomic pressures have contributed to a gradual rise in the NPL ratio, with projections indicating it may reach 12.5% by 2025 (World Data Atlas, 2021; Bank of Zambia, 2023). This persistent elevation above the prudential threshold of 5% signals potential systemic deficiencies in credit risk management practices across the sector

The core problem facing Zambian banks is a critical disconnect: despite implementing increasingly sophisticated CRM strategies, including credit scoring models, rigorous borrower risk assessments, and diversified portfolio management, asset quality continues to deteriorate for many institutions. Banks remain caught in a fundamental bind: riskier loans can yield higher returns but also increase defaults and loan loss provisions, while overly conservative lending restricts revenue growth. The persistent upward trend in industry-wide NPLs points to a widespread failure to manage this trade-off effectively. Consequently, there is a critical research gap regarding how the adequacy, effectiveness, and integrated lifecycle of CRM practices collectively influence bank financial performance in Zambia's unique economic environment. Without such comprehensive evaluation, banks risk perpetuating misaligned policies, incurring financial losses, and facing regulatory non-compliance. This study addresses the central question: How, and to what extent, do credit risk management practices affect the profitability of banks?

#### ➤ *Research Objectives*

The general objective was to evaluate the impact of credit risk management strategies on the profitability of Indo-Zambia Bank. Specifically, this study aims to:

- Determine the adequacy of the credit risk assessment framework and its effect on profitability.
- Evaluate the effectiveness of the bank's CRM policies in mitigating non-performing loans.
- Assess the influence of the credit risk management lifecycle on the bank's profitability.

#### ➤ *Research Questions*

- How does the adequacy of the credit risk assessment framework affect IZB's profitability?
- To what extent are the bank's CRM policies effective in mitigating NPLs?
- What is the effect of the CRM lifecycle on IZB's profitability?

## II. LITERATURE REVIEW

### A. *Theoretical Framework*

This study is anchored in three key theories that provide the conceptual foundation for understanding the relationship between credit risk management and bank profitability.

Credit Risk Theory posits that lending institutions face a trade-off between risk and return when extending credit to borrowers with varying default probabilities. According to Miu and Ozdemir (2008), credit risk can be quantified and mitigated through predictive models, diversification, and borrower assessment mechanisms. The theory assumes that banks can manage risk exposure by setting appropriate credit limits and provisions that protect profitability in the event of default. In modern banking, effective application of credit risk theory ensures that financial losses are minimized, leading to improved asset quality and sustained profitability (Bessis, 2020).

The Risk-Return Trade-Off Theory, advanced by Markowitz (1952) and later expanded by Merton (1977), argues that financial institutions face a fundamental trade-off between expected returns and the level of risk assumed. In banking, this implies that taking on riskier loans may yield higher interest income but also increases default probability, potentially eroding profits. Berger and DeYoung (1997) assert that while risk-taking is essential for revenue generation, excessive credit exposure can destabilize earnings. This theory supports the need for banks to establish optimal risk-return thresholds that balance profitability with solvency.

Agency Theory, developed by Jensen and Meckling (1976), explains conflicts of interest between managers (agents) and shareholders (principals). In banking, managers may engage in riskier lending to maximize short-term performance incentives, contrary to shareholders' preference for long-term stability. Without effective governance, such behavior can lead to poor credit decisions and higher default rates. Agency costs can be mitigated through robust CRM systems that align managerial incentives with shareholder interests.

NPL Theory emphasizes that rising non-performing loans are both a symptom and cause of poor credit risk management. Berger and DeYoung (1997) introduced two hypotheses: the "bad management hypothesis," which links high NPLs to ineffective loan screening and monitoring, and the "bad luck hypothesis," which attributes NPL growth to

external macroeconomic shocks. In either case, increased NPLs reduce profitability through higher provisioning expenses and reduced interest income (Ghosh, 2015).

### B. Empirical Review of Literature

Numerous studies affirm that credit risk is a major determinant of bank profitability. Achou and Tenguh (2019) examined 35 international banks and found that CRM practices, particularly credit appraisal and loan monitoring, significantly improved return on assets (ROA). Similarly, Miu and Ozdemir (2008) demonstrated that risk-sensitive models enhance profitability by reducing loan loss provisions. However, findings vary. Kosmidou et al. (2005) observed that excessive risk aversion may constrain income growth, leading to lower profitability despite reduced credit losses. This mixed evidence suggests that while CRM can improve performance, its impact depends on implementation quality, macroeconomic stability, and bank-specific characteristics.

In Sub-Saharan Africa, credit risk remains a critical issue affecting banking sector performance. Adelegan (2009) found that high credit exposure among African banks significantly reduced profitability, especially in economies with unstable monetary regimes. Kargi (2011) confirmed a strong negative relationship between NPLs and profitability among Nigerian banks. Likewise, Kaaya and Pastory (2013) identified credit risk indicators as key predictors of profitability among Tanzanian banks. More recently, Kayombo, Mwanamangala, and Mwape (2023) analyzed the relationship between CRM and profitability among Zambian and Malawian banks, finding that prudent risk assessment improved asset quality but only marginally affected profitability.

Within Zambia, Chirwa and Odhiambo (2016) explored the relationship between credit risk and profitability in Zambian commercial banks, finding that high levels of non-performing loans were associated with lower profitability. Mwansa and Simpasa (2014) highlighted that the country's banking sector suffers from high levels of credit risk, mainly due to defaulting borrowers and the lack of effective debt recovery mechanisms. Phiri (2017) found that while banks in Zambia have put in place formal credit risk management systems, they are often inadequately applied due to limited resources and capacity.

There is a notable gap in the literature concerning the specific context of Indo-Zambia Bank. While studies in Zambia highlight the importance of credit risk management in maintaining profitability, they do not provide a detailed analysis of how specific credit risk indicators affect profitability in individual banks. Moreover, little attention has been given to understanding the challenges and opportunities that banks like Indo-Zambia Bank face in implementing their credit risk management policies. This research aims to fill these gaps by investigating not only the adequacy and effectiveness of credit risk assessment frameworks and policies at Indo-Zambia Bank but also by analyzing how the complete lifecycle of credit risk management impacts key profitability measures.

## III. METHODOLOGY

An explanatory sequential mixed-methods design was employed. This involved collecting and analyzing quantitative data first, followed by qualitative inquiry to explain and contextualize the statistical findings. This approach allows for triangulation and a deeper understanding of the causal mechanisms at play (Creswell, 2009). The study adopts a pragmatic philosophical orientation, recognizing that both measurable financial indicators and experiential managerial insights are necessary for comprehensive understanding.

- **Quantitative Data:** Secondary financial data (NPL ratios, ROA) for IZB and the Zambian banking industry (2004–2024) were sourced from IZB annual reports and Bank of Zambia publications. Primary quantitative data were collected via a structured questionnaire administered to 35 credit and risk management staff at IZB, achieving an 83% response rate (n=29). The questionnaire measured perceptions of CRM framework adequacy, policy effectiveness, and lifecycle impact using a 5-point Likert scale. Quantitative data were analyzed using SPSS, employing descriptive statistics, correlation, and multiple regression analysis. The regression model adopted was:

$$\text{Profitability (ROA, ROE)} = \beta_0 + \beta_1(\text{CRM Framework Adequacy}) + \beta_2(\text{Policy Effectiveness}) + \beta_3(\text{CRM Lifecycle}) + \varepsilon$$

- **Qualitative Data:** Semi-structured interviews were conducted with 8 senior risk officers and credit managers. Open-ended questions in the survey also captured qualitative insights on implementation challenges and suggestions for improvement. Qualitative data from interviews were analyzed thematically through transcription, coding, and synthesis.

Informed consent was obtained from all participants, confidentiality was guaranteed through anonymization, and data were stored securely. Participation was voluntary, and respondents were free to withdraw at any stage.

## IV. PRESENTATION OF FINDINGS

The analysis follows an explanatory sequential mixed-methods design, beginning with quantitative analysis of both bank-specific and industry-wide data, followed by qualitative analysis of survey responses to contextualize and interpret the findings.

### ➤ Descriptive Statistics of Performance Indicators

This section presents a quantitative analysis of Indo-Zambia Bank's financial health and the effectiveness of its risk management efforts over the 2004–2024 period. It begins with a statistical summary of key variables to provide an overview of the bank's operational efficiency and asset quality, benchmarked against industry standards and regulatory requirements.

Table 1 Descriptive Statistics of Indo-Zambia Bank Performance Indicators (2004–2024)

Variable	Mean	Std. Deviation	Minimum	Maximum
INDO_NPL_Ratio_%	3.15%	1.52%	1.20%	6.50%
INDO_ROA_%	2.68%	0.49%	2.00%	3.60%
Industry_NPL_Ratio_% (BOZ)	7.45%	2.15%	3.40%	12.00%
Benchmark_NPL_% (5%)	5.00%	0.00%	5.00%	5.00%

Source: Field Data (2025)

As Table 1 illustrates, Indo-Zambia Bank's average NPL ratio of 3.15% is substantially lower than the industry average of 7.45%, providing initial evidence of the bank's comparatively effective credit risk management. While the industry-wide NPL ratio has historically exhibited systemic weaknesses, consistently breaching the 5% regulatory benchmark and reaching peaks of 30% in 1994 and 27% in 2009, Indo-Zambia Bank has maintained NPL ratios consistently below this threshold throughout the entire period. This reinforces the inference that the bank's credit management strategies have been effective in mitigating non-performing loans compared to its peers.

Furthermore, Indo-Zambia Bank's Return on Assets (ROA) showing a clear improving trend from 2.1% in 2004 to 3.5% in 2024, suggesting growing operational efficiency over time. The concurrent downward trend in both the bank's and the industry's NPL ratios, alongside the upward trend in ROA, points to an inverse relationship between these variables. This observed pattern supports the study's central assertion: that a robust credit risk management framework encompassing the entire credit lifecycle, rigorous assessment processes, and sound policies can effectively mitigate non-performing loans and, consequently, exert a positive influence on bank profitability.

➤ *Perceptions of Credit Management Practices*

Table 2 Mean Responses to Credit Management Survey Questions (Scale: 1–5)

Construct	Mean Score	Std. Deviation	Interpretation
CRM Framework Adequacy	3.89	0.82	Moderately High Agreement
Policy Effectiveness	3.75	0.79	Moderate Agreement
CRM Lifecycle & Profitability	3.68	0.88	Moderate Agreement
Training & Monitoring	3.81	0.85	Moderately High Agreement
Recovery & NPL Reduction	3.72	0.91	Moderate Agreement
<b>Overall Average</b>	<b>3.77</b>	<b>0.85</b>	<b>Moderate to High Agreement</b>

Source: Field Data (2026)

Respondents generally perceive the bank's CRM practices positively, with an overall mean of 3.77. The highest-rated construct was CRM Framework Adequacy (3.89), suggesting employees view foundational credit risk structures as robust. The lowest-rated was Recovery and NPL Reduction (3.72), pointing to perceived room for enhancement in loan recovery processes.

➤ *Regression Analysis: CRM Practices and Profitability*

To empirically evaluate the effect of credit risk management practices on the bank's profitability, a regression analysis was conducted. In the first model, Return on Assets (ROA) was regressed against three key CRM constructs: CRM Framework Adequacy, Policy Effectiveness, and the CRM Lifecycle. The regression model was significant ( $F=13.45, p<.001$ ) and explained 67% of the variance in ROA ( $R^2=0.67$ ).

Table 3 Regression Results (DV: ROA)

Variable	Coefficient	Std. Error	t-statistic	p-value
Constant	1.12	0.38	2.95	0.008
CRM Framework Adequacy	0.42	0.18	2.33	0.031
Policy Effectiveness	0.38	0.20	1.90	0.072
CRM Lifecycle	0.51	0.16	3.19	0.005
<b>Model Summary</b>	$R^2 = 0.67$	Adj. $R^2 = 0.62$	$F = 13.45$	$p < 0.001$

Source: Field Data (2026)

The above results indicate that all three CRM constructs positively influence ROA, collectively explaining 67% of its variation. The CRM Lifecycle exhibits the strongest and most highly significant positive effect ( $\beta = 0.51, p < 0.01$ ), suggesting that end-to-end management of the credit process is the most critical driver of profitability. This confirms that

the end-to-end credit process, particularly post-disbursement, is the most critical driver of profitability.

Table 4 Regression Results – CRM Practices on ROE

Variable	Coefficient	Std. Error	t-statistic	p-value
Constant	10.24	2.15	4.76	0.000
CRM Framework Adequacy	0.39	0.18	2.17	0.043
Policy Effectiveness	0.34	0.19	1.79	0.089
CRM Lifecycle	0.57	0.17	3.35	0.003
<b>Model Summary</b>	<b>R<sup>2</sup> = 0.71</b>	<b>Adj. R<sup>2</sup> = 0.66</b>	<b>F = 15.28</b>	<b>p &lt; 0.001</b>

Source: Field Data (2025)

The patterns observed in the ROA model are replicated with ROE, confirming the robustness of the relationship across different profitability measures. The CRM Lifecycle again demonstrates the strongest effect ( $\beta = 0.57, p < 0.01$ ), followed by CRM Framework Adequacy ( $\beta = 0.39, p < 0.05$ ). Policy Effectiveness remains marginally significant ( $p = 0.089$ ). The model explains 71% of the variation in ROE ( $R^2 = 0.71$ ), and the overall model is statistically significant ( $F = 15.28, p < 0.001$ ). Overall, the regression analyses provide strong empirical support for the study's central hypothesis. The consistent and significant positive coefficients across both profitability metrics indicate that robust credit risk management practices, particularly a well-managed credit lifecycle and an adequate risk management framework, are

key determinants of Indo-Zambia Bank's financial performance.

➤ *Quantitative Analysis: Industry-Wide Trends*

Having examined the specific credit risk management practices and their effect on profitability at Indo-Zambia Bank, this section broadens the analytical lens to consider the industry-wide context. Analyzing aggregate banking sector data from 1994 to 2024 serves a dual purpose. First, it allows for an empirical test of the study's core thesis that credit risk management effectiveness is inversely related to profitability at a macro level. Second, it provides a crucial benchmark against which the performance of Indo-Zambia Bank can be evaluated, helping to disentangle bank-specific factors from systemic industry trends.

Table 5 Trends in Industry Credit Risk and Profitability Indicators

Year Range	Avg. NPL_%	Avg. ROA_%	Avg. ROE_%	Avg. NIM_%	Credit Diversification Index
1994–1999	18.5%	1.8%	12.5%	7.2%	0.32
2000–2009	12.8%	2.4%	15.8%	8.5%	0.41
2010–2019	8.9%	2.9%	18.2%	9.1%	0.49
2020–2024	11.2%	2.6%	16.5%	8.8%	0.52

Source: Field Data (2025)

Table 6 Regression Results – Credit Risk Indicators on Industry ROA

Variable	Coefficient	Std. Error	t-statistic	p-value
Constant	-1.85	0.62	-2.98	0.006
Non-Performing Loans	-0.21	0.05	-4.20	0.000
Loan Loss Provisions	-0.18	0.07	-2.57	0.016
Credit Diversification Index	0.32	0.10	3.20	0.003
Risk Weighted Assets Index	0.15	0.08	1.88	0.071
<b>Model Summary</b>	<b>R<sup>2</sup> = 0.88</b>	<b>Adj. R<sup>2</sup> = 0.86</b>	<b>F = 45.32</b>	<b>p &lt; 0.001</b>

Source: Namoonde (2026)

The model demonstrates excellent explanatory power, with the independent variables accounting for 88% of the variation in industry ROA ( $R^2 = 0.88$ ). The F-statistic is highly significant ( $p < 0.001$ ), confirming the overall validity of the model. The coefficients for NPLs, loan loss provisions, and credit diversification are all statistically significant at the 5% level, while the risk-weighted assets index is marginally significant at the 10% level.

are a direct cost of anticipated credit defaults, also exhibit a significant negative relationship with profitability ( $-0.18, p = 0.016$ ). Conversely, credit diversification emerges as the strongest positive driver of profitability ( $0.32, p = 0.003$ ), reinforcing the strategic importance of a well-distributed loan portfolio in mitigating risk and enhancing returns.

➤ *Qualitative Findings*

Thematic analysis of open-ended responses revealed key implementation challenges:

The results provide strong empirical support for the study's core thesis at the industry level. The negative coefficient for NPLs ( $-0.21, p < 0.001$ ) confirms the significant detrimental effect of poor credit quality on bank profitability. Specifically, a one percentage point increase in the industry NPL ratio is associated with a 0.21 percentage point decrease in ROA. Similarly, loan loss provisions, which

Table 7 Thematic Analysis of Implementation Challenges

Theme	Frequency	Representative Quotations
Staff Training Gaps	11 (39.3%)	"Lack of adequate training of staff handling credit."
Resource Constraints	6 (21.4%)	"Our branch operations are severely hampered by a lack of basic resources, like company vehicles." "We are understaffed at the branch level. The few loan officers we have are overwhelmed with other branch activities, leaving little time for proper follow-up on existing clients."
System & Technology Issues	4 (14.3%)	"Without an integrated system, there's no centralized database to track a customer's borrowing history."
Monitoring Deficiencies	3 (10.7%)	"The culture is heavily skewed towards loan approvals to meet targets... continuous monitoring becomes an afterthought."
Other Challenges	4 (14.3%)	"Limited credit history for many potential borrowers makes initial risk assessment very difficult."

Source: Namoonde (2026)

Training deficiencies emerged as the most significant perceived barrier, cited by nearly 40% of respondents. This suggests that even with well-articulated policies, effective implementation is compromised by skill gaps at the operational level.

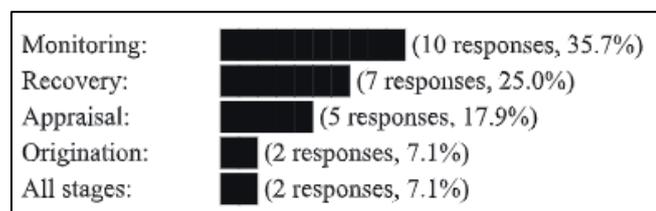


Fig 1 Perceived Criticality of CRM Lifecycle Stages

The data reveals strong consensus that later stages, monitoring and recovery, are the most critical determinants of profitability. This aligns powerfully with quantitative results identifying the CRM Lifecycle as having the strongest effect on profitability. When asked which CRM lifecycle stage most affects profitability, staff identified Monitoring (35.7%) and Recovery (25.0%) as most critical. One respondent noted, "The focus is heavily on loan approvals...continuous monitoring becomes an afterthought." Another emphasized, "A loan is not truly an asset until it is repaid."

➤ *Triangulation of Findings*

Table 8 Triangulation Matrix

Research Objective	Quantitative Evidence	Qualitative Evidence	Triangulated Conclusion
SO1: Framework Adequacy	Strong positive effect on ROA ( $\beta=0.42$ )	High mean rating (3.89) but frequent training gaps	Framework is structurally sound but operationally constrained
SO2: NPL Mitigation	Indo NPL (3.15%) below industry (7.45%)	Staff perceive monitoring and recovery as under-resourced	Bank manages NPLs well relative to peers, but further improvements possible
SO3: Lifecycle Influence	Strongest predictor ( $\beta=0.57$ for ROE)	Monitoring (35.7%) and recovery (25.0%) most critical	End-to-end lifecycle management is primary profitability driver

Triangulation provides a nuanced conclusion: Indo-Zambia Bank possesses a structurally sound CRM framework, but its effectiveness is operationally constrained. While the framework's adequacy is statistically significant and positively perceived, the full realization of its potential is hindered by implementation gaps in human capital, resources, and technology, particularly within the monitoring and recovery stages.

**V. DISCUSSION OF FINDINGS**

➤ *Adequacy of Credit Risk Assessment Framework*

The quantitative analysis revealed a statistically significant positive relationship between framework adequacy and profitability ( $\beta = 0.42$ ,  $p < 0.05$ ). This finding aligns with Credit Risk Theory (Miu & Ozdemir, 2008), which posits that structured borrower appraisal systems are essential for maintaining asset quality. The mean rating of 3.89 indicates staff perceive the framework positively, and

since 67.9% of respondents work in the Credit department, this internal validation is crucial.

However, qualitative insights revealed important nuances. While respondents viewed the framework as adequate, several noted significant implementation challenges. The thematic analysis quantified training deficiencies as the most frequently cited challenge (39.3%), indicating a disconnect between framework design and implementation capacity. This aligns with Phiri's (2017) research on Zambian banks, which noted that formal CRM systems often suffer from inadequate application due to resource limitations.

➤ *Effectiveness in Mitigating Non-Performing Loans*

The industry-level analysis revealed a strong negative relationship between NPLs and profitability ( $\beta = -0.21$ ,  $p < 0.001$ ). This finding offers strong support for NPL Theory (Berger & DeYoung, 1997). The "bad management

hypothesis", that deficiencies in loan screening and monitoring lead to bad loans, is particularly relevant here.

Indo-Zambia Bank's ability to maintain NPL ratios significantly below industry averages suggests that effective policy implementation, even if imperfect, provides tangible competitive advantage. However, qualitative responses highlighted resource constraints that likely explain the only marginal significance of the policy variable in the regression model. Respondents pointed to lack of vehicles for client verification and understaffing at branches, directly impeding effective policy implementation.

#### ➤ *Influence of the CRM Lifecycle*

Among all constructs examined, the CRM Lifecycle had the strongest positive effect on profitability, with highly significant coefficients for both ROA ( $\beta = 0.51$ ) and ROE ( $\beta = 0.57$ ). This finding is particularly significant as it highlights the importance of an integrated, end-to-end approach.

Qualitative responses provided nuanced insights into which stages are perceived as most critical. Monitoring was identified by the largest proportion (35.7%), followed by recovery (25.0%), with appraisal receiving lower emphasis (17.9%). This distribution offers a powerful insight: staff with direct operational experience believe post-approval activities are even more crucial for protecting profitability than initial assessment.

#### ➤ *Integration of Findings*

The triangulation process reveals that while Indo-Zambia Bank possesses a structurally sound CRM framework, its ultimate effectiveness is determined by the interplay between robust design and practical implementation realities. The convergence of quantitative and qualitative evidence supports the proposition that both policy design and implementation quality are jointly necessary for achieving positive profitability outcomes.

## VI. CONCLUSION AND RECOMMENDATIONS

### A. *Summary of Findings*

This study evaluated the effects of credit risk management practices on profitability at Indo-Zambia Bank. Three key findings emerged:

First, the bank maintains a robust credit risk assessment framework, evidenced by a mean staff rating of 3.89. Statistical analysis demonstrated a significant positive relationship between framework adequacy and profitability ( $\beta = 0.42$ ), confirming that structured policies are fundamentally sound. However, implementation gaps—particularly in staff training—moderate practical effectiveness.

Second, Indo-Zambia Bank demonstrates comparative effectiveness in NPL management, maintaining an average NPL ratio of 3.15% against an industry average of 7.45%. While policies contribute significantly to this performance,

resource constraints and inconsistent monitoring present ongoing challenges.

Third, the CRM lifecycle emerged as the strongest predictor of profitability ( $\beta = 0.57$ ), with particular emphasis on monitoring and recovery stages. The integrated nature of the lifecycle demonstrates cumulative effects exceeding the impact of individual components.

### B. *Conclusions*

Credit management practices significantly and positively influence bank profitability at Indo Zambia Bank, with the CRM lifecycle demonstrating the strongest impact. This relationship is mediated by implementation quality, staff capacity, and external economic conditions. While the bank maintains adequate frameworks, execution consistency represents the primary constraint on maximizing profitability benefits.

The study validates several theoretical frameworks within the Zambian context. Credit Risk Theory is confirmed, as structured assessment frameworks support asset quality. The Risk-Return Trade-Off Theory is supported, with findings indicating that effective CRM enables optimal balancing between credit expansion and risk control. NPL Theory is validated, demonstrating that NPL management directly influences profitability.

Three contextual conclusions emerge: Indo Zambia Bank maintains a comparative profitability advantage through relatively effective NPL management; the primary challenge lies not in framework design but in consistent implementation; and CRM effectiveness is significantly influenced by external economic conditions.

### C. *Recommendations*

For Indo-Zambia Bank Management:

- Enhance monitoring and recovery capabilities. Dedicated monitoring units should be established at the branch level, supported by specialized staff training. Tiered monitoring strategies tailored to loan sizes and risk categories should be implemented.
- Address implementation gaps through targeted investments. Structured, continuous professional development programs for credit staff should be developed and funded. Resource allocation should be reviewed to ensure branches have necessary tools for effective client oversight.
- Leverage technology to improve operational consistency. Investment in integrated loan management systems with automated early warning capabilities should be prioritized. Digital monitoring tools for real-time portfolio visibility should be explored.

- *For the Zambian Banking Sector:*

The industry should spearhead collaborative initiatives to develop standardized CRM training programs through national banking associations. Shared credit information platforms should be created to facilitate comprehensive borrower visibility.

- *For Regulatory Authorities:*

The Bank of Zambia should consider how supervisory frameworks can support capacity building in critical areas like loan monitoring and recovery. Providing guidance and incentivizing adoption of best practices could complement traditional regulation.

#### D. Limitations and Future Research

Several limitations should be acknowledged. The study's cross-sectional design limits causal inference regarding CRM effects over time. Concentration on a single bank limits generalizability, though contextual insights remain valuable.

Future research should track CRM practices and profitability over extended periods to establish causal relationships, examine how CRM implementation evolves over time, and compare practices across multiple Zambian banks and other African markets.

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