



Strategies For Reducing Non-Performing Loans At BPR Papua Mandiri Makmur: An Analysis Of Internal Credit Management Practices

Muhammad Rosihan Anwar ¹⁾; Raden Aswin Rahadi ²⁾

^{1, 2)} *School of Business and Management, Institut Teknologi Bandung, Indonesia*

Email: ¹⁾ rosihananwar81@gmail.com

How to Cite :

Anwar, M, R., Rahadi, R, A. (2026). Strategies For Reducing Non-Performing Loans At BPR Papua Mandiri Makmur: An Analysis Of Internal Credit Management Practices. EKOMBIS REVIEW: Jurnal Ilmiah Ekonomi Dan Bisnis, 14(4). DOI: <https://doi.org/10.37676/ekombis.v14i4>

ARTICLE HISTORY

Received [19 May 2026]

Revised [20 October 2026]

Accepted [22 October 2026]

KEYWORDS

Rural Bank Credit Risk; Account Officer Judgment; Loan Monitoring Architecture; SOP Governance; Internal Determinants Of Default; Qualitative Case Study.

This is an open access article under the [CC-BY-SA](#) license



ABSTRACT

This study investigates the internal operational determinants of Non-Performing Loan (NPL) formation at BPR Papua Mandiri Makmur (BPR PMM), focusing on Account Officer (AO) competence, monitoring discipline, and SOP implementation. A qualitative case study design was employed. Data were collected through semi-structured interviews with ten internal respondents and four external practitioners, with thematic analysis applied across all transcripts. Three interconnected failure layers were identified: origination competence gaps (collateral over-weighting, omset inflation), reactive monitoring architecture (no risk-differentiated protocol or visit log), and SOP governance failures (normalized incomplete-file disbursement, incentive misalignment). This study extends Human Capital Theory, Credit Supervision Theory, and Internal Control Theory to the specific context of a remote rural bank in eastern Indonesia, contributing process-level evidence on how operational weaknesses interact to produce NPL outcomes. Rural bank credit risk; Account Officer judgment; loan monitoring architecture; SOP governance; internal determinants of default; qualitative case study.

INTRODUCTION

Indonesia's rural banking sector represented by Bank Perkreditan Rakyat (BPR) constitutes a critical financial intermediary for micro, small, and medium enterprises (MSMEs) that are structurally excluded from the formal commercial banking system. BPRs operate with lean organisational structures, manual credit processes, and minimal technological infrastructure, rendering them acutely dependent on the quality of internal human judgement and procedural discipline at every stage of the credit lifecycle (Fakhrunnas & El Hasanah, 2022; Khairi et al., 2021).

Despite their strategic importance to the Indonesian financial inclusion agenda, BPRs have persistently struggled to maintain Non-Performing Loan (NPL) ratios below the five-percent regulatory threshold established by the Financial Services Authority (Otoritas Jasa Keuangan/OJK). Nationally, BPR NPL ratios escalated from 6.72 percent in 2021 to 7.89 percent in 2022 the highest recorded level since 2016 reflecting systemic weaknesses in credit management that transcend individual institutions (Budiarto, 2021; OJK, 2023). The COVID-19 pandemic amplified pre-existing vulnerabilities, with Fakhrunnas & El Hasanah, (2022) documenting an asymmetric deterioration in NPL ratios across Indonesian rural and conventional banks during and after the pandemic crisis.

This study investigates the internal determinants of NPL formation at BPR Papua Mandiri Makmur (BPR PMM), a privately owned rural bank headquartered in Jayapura with a branch in Keerom Regency, Papua Province. By 2025, the institution's gross NPL ratio had exceeded 32 percent more than six times the regulatory ceiling signalling a credit quality deterioration that cannot be explained solely by macroeconomic conditions or borrower-side factors.

Prior empirical research on BPR NPLs has predominantly employed quantitative panel data approaches, emphasising financial ratios and macroeconomic indicators as primary determinants of loan quality (Alnabulsi et al., 2023; Khairi et al., 2021; Ozili, 2025). While valuable at the sector level, these methodologies provide limited explanatory power regarding how operational practices within specific institutions generate and sustain high NPL ratios. There remains a gap in process-level, qualitative evidence that captures how internal operational factors interact within the institutional context of BPRs operating in remote areas characterised by informal economic structures and limited regulatory enforcement capacity (Arslan & Alqatan, 2020; Monalisa & Sugiarto, 2022).

To address this gap, the present study examines three internal dimensions AO competence, monitoring discipline, and SOP implementation and their interaction in shaping the NPL trajectory at BPR PMM. Specifically, the research (1) examines the extent to which AO competencies, monitoring behaviour, and SOP execution influence NPL patterns; (2) identifies operational gaps within these dimensions in daily banking practices; and (3) formulates targeted, resource-proportionate recommendations to reduce NPL levels while strengthening credit risk management effectiveness. This study makes a distinct contribution by generating institution-specific, process-level diagnostic evidence in a context a remote BPR in Papua that remains largely absent from the existing academic literature.

LITERATURE REVIEW

Human Capital Theory and AO Competence in Credit Origination

Human Capital Theory, foundationally articulated by Becker, (2009) and extended by Awu et al., (2025), posits that individual knowledge, skills, and accumulated experience directly shape the quality of economic decision-making. Applied to the BPR credit context, this translates to the proposition that AO competence encompassing the capacity to reconstruct informal cash flows, critically assess borrower character and business viability, and evaluate collateral realisability constitutes a primary determinant of origination quality and subsequent portfolio performance.

In informal-economy BPR environments, where no formal borrower financial records exist and no automated credit scoring system imposes a minimum analytical floor, individual AO competence does not produce marginal differences in outcome it produces materially different credit quality entering the same portfolio (Awu et al., 2025). Research by Fakhrunnas and Hasanah (2022) confirms that BPRs face heightened exposure to competence-related credit risk in SME financing, given the absence of standardised scoring mechanisms and the reliance on officer-level judgement. Additionally, studies on loan officer behaviour in emerging market contexts demonstrate that cognitive biases including relationship override and anchoring on

collateral value systematically distort credit assessments when analytical standards are not institutionally enforced (Hasanah et al., 2025).

Credit Analysis Theory and the 5c Framework

Credit Analysis Theory, operationalised through the 5C framework character, capacity, capital, collateral, and condition provides the formal analytical structure within which origination quality is assessed. The framework's predictive validity depends entirely on the disciplined application of all five dimensions; in informal-economy BPR environments, the character and capacity dimensions are simultaneously the most analytically demanding and the most systematically underweighted due to the absence of verifiable financial documentation (Hasanah et al., 2025; Zamore et al., 2018).

Khairi et al. (2021), through a systematic review of NPL determinants, confirm that procedural consistency in credit origination including the sequential and nonselective application of all 5C dimensions is a significant predictor of loan quality in Indonesian micro-finance institutions. Monalisa and Sugiarto (2022) further establish that origination process quality is the strongest internal predictor of NPL formation in rural banks, with collateral-centric assessment practices consistently identified as a leading contributor to subsequent defaults when borrower repayment capacity is not independently verified.

Credit Supervision Theory and Post-Disbursement Monitoring

Credit Supervision Theory establishes that loan performance depends not only on pre-disbursement evaluation but on the institution's continuous capacity to oversee borrower conditions throughout the entire loan lifecycle (Zamore et al., 2018). In BPR environments where small business borrowers experience rapid and unpredictable financial fluctuations driven by informal market dynamics and seasonal income patterns, the monitoring function is not supplementary to credit management it is structurally inseparable from it.

Empirical evidence from Bangladesh (Akhter, 2023) establishes that NPLs are directly related to poor post-disbursement appraisal and inadequate loan supervision, confirming the cross-contextual validity of monitoring as a critical NPL determinant. Similarly, research on monitoring activities and NPLs in financial institutions Illelaboye & Alade, (2025) demonstrates that the quality of internal oversight mechanisms including the frequency and documentation of borrower visits significantly moderates the transition from early-stage delinquency to non-performing classification. Risk Management Theory, as institutionalised in OJK's prudential framework (OJK, 2015, 2022), reinforces monitoring as the operational core of the risk identification and control cycle for Indonesian rural banks.

Internal Control Theory and SOP Governance

Internal Control Theory holds that SOPs are effective institutional instruments only when implemented with discipline and consistency: skipping verification steps, documenting incompletely, or failing to escalate early warning signals degrades the control system regardless of how well the procedure is formally written (Alnabulsi et al., 2023). The maker-checker principle central to sound internal control architecture loses its protective function when information asymmetry between origination and review personnel permits relationship-based override.

Monalisa and Sugiarto (2022) provide the integrating theoretical lens through Internal Determinants of Default Theory, establishing that NPL outcomes in Indonesian rural banks are co-produced by both borrower characteristics and internal institutional weaknesses, and that internal factors are substantially more amenable to institutional intervention. Research on internal control in Indonesian banking contexts (Alnabulsi et al., 2023; Ozili, 2025) further identifies incentive misalignment rewarding disbursement volume while leaving portfolio quality unmeasured as a governance failure that systematically produces adverse credit selection.

Together, these theoretical frameworks constitute the analytical scaffolding within which BPR PMM's operational failures are examined and interpreted.

METHODS

Research Design

A qualitative single-case study design was employed, consistent with the interpretive and process-oriented nature of the research objectives (Yin, 2018). Case study methodology is appropriate when the research question requires understanding how and why a particular phenomenon occurs within a bounded real-world context specifically, in this case, why a single BPR has accumulated a gross NPL ratio more than six times the regulatory ceiling while the broader national BPR sector itself faces elevated NPL pressures (Yin, 2018).

BPR PMM was selected through theoretical sampling: its extreme NPL deviation provides maximal analytical leverage for examining the operational mechanisms through which internal weaknesses produce credit deterioration, consistent with Merriam & Tisdell, (2016) logic of selecting information-rich cases that illuminate the phenomenon of interest most clearly.

Data Collection and Analysis

Primary data were collected through semi-structured in-depth interviews with fourteen respondents: ten internal participants (including the Director, Operations Director, Account Officers, and Credit Administration staff at BPR PMM) and four external practitioners from commercial banking and regulatory backgrounds. Interview protocols were designed to elicit detailed process-level accounts of credit assessment practices, monitoring behaviour, and SOP compliance. All interviews were audio-recorded with informed consent and transcribed verbatim.

Secondary data included BPR PMM internal Core Banking System (CBS) data covering the NPL trajectory from 2020 to 2025, credit files for sampled non-performing accounts, and applicable OJK regulatory circulars. Thematic analysis was applied inductively across all transcripts, following Braun & Clarke, (2019) six-phase thematic analysis procedure, with member checking employed as a triangulation mechanism to strengthen interpretive validity.

RESULTS

NPL Trajectory and Portfolio Deterioration at BPR PMM

BPR PMM's gross NPL ratio deteriorated from approximately 4 percent in 2020 to 32 percent by 2025, representing a trajectory that accelerates markedly after 2022. Two structural features render this deterioration analytically significant. First, it occurred while total outstanding credit was simultaneously contracting from approximately IDR 8,500 million in 2020 to IDR 5,800 million in 2025 ruling out aggressive loan expansion as an explanatory factor and directing analytical attention toward the quality of loans already in the portfolio. Second, the acceleration post-2022 indicates that internal corrective capacity was insufficient to arrest the deterioration once initiated, consistent with findings on the compounding effects of monitoring deficiencies in financial institutions (Akhter, 2023; Ozili, 2025). Table 1 summarises the NPL trajectory.

Table 1. Gross NPL Ratio Trend at BPR PMM (2020–2025)

Year	Outstanding Credit (IDR Million)	NPL Nominal (IDR Million)	Gross NPL Ratio (%)	OJK Threshold (%)	Status
2020	~8,500	~340	~4.0	5	Within threshold
2021	~8,100	~567	~7.0	5	Exceeded

2022	~7,600	~988	~13.0	5	Exceeded
2023	~6,900	~1,449	~21.0	5	Exceeded
2024	~6,200	~1,798	~29.0	5	Exceeded
2025	~5,800	~1,856	~32.0+	5	Exceeded (6×)

Source: BPR PMM internal CBS data; author's analysis (2025)

Across all three loan segments working capital loans to micro and small traders, project-based SPK lending, and consumer loans to civil servants the proximate cause of default traces to internal operational failures in assessment, monitoring, or both, rather than to external conditions alone. Borrowers whose loans were assessed accurately, monitored consistently, and structured conservatively demonstrated greater resilience to the same external pressures, confirming that internal operational quality is the decisive variable (Monalisa & Sugiarto, 2022).

AO Competence in Credit Assessment

BPR PMM operates in an informational environment that places exceptional demands on AO analytical competence. Borrowers maintain no formal financial records; no automated scoring mechanism provides an analytical baseline; and feasibility judgements depend entirely on individual AO capacity to reconstruct informal cash flows and independently verify borrower-declared revenue (omset). Consistent with Human Capital Theory (Awu et al., 2025) and Credit Analysis Theory (Hasanah et al., 2025), interview evidence identifies three recurring competence failure patterns, which are summarised in Table 2.

Table 2. AO Competence Failure Patterns at BPR PMM

Failure Pattern	Description	Evidence from Respondents	Theoretical Basis
Collateral-Led Approval	Collateral assessment receives disproportionate emphasis, substituting for repayment capacity analysis	La Efendi: institutional tendency to treat certificate as approval basis; Nova C.H Samip: 'The only C that does not move is collateral'	Credit Analysis Theory – 5C model (capacity systematically underweighted); Human Capital Theory (Becker, 1993)
Omset Inflation	Self-declared revenue accepted without empirical cross-referencing; 5 of 10 respondents raised without prompting	Setyo Budi Rustanto: 'What borrowers say and what data shows are often different'; Boris: canvasses neighbours before visit	Human Capital Theory – tacit verification skill not standardised (Becker, 1993); Rusdianti et al. (2018)
Fund Diversion	Loan proceeds used for purposes other than stated in application	La Efendi: post-disbursement visit revealed no business stock increase; Mardiana: nominee borrower scheme	Credit Supervision Theory (McLeod, 2004); Monalisa & Sugiarto (2022)

Source: Author's thematic analysis of interview data (2025)

The institutional pattern that emerges from these findings is consistent with what Khairi et al. (2021) describe as the systematic distortion of multi-dimensional credit analysis under conditions of information asymmetry: when analytical standards are not codified into mandatory verification protocols, the path of least resistance collateral-centric approval becomes the de facto institutional standard. La Ode Putra Dewangga's account of a contractor who accumulated IDR 1.2 billion across three facilities registered under different nominee names, with each facility structured below individual approval thresholds, illustrates the compounding risk of origination competence gaps in combination with governance failures.

Monitoring Practices and Structural Constraints

BPR PMM's formal monitoring threshold mandatory visits triggered at thirty days overdue, intensified engagement at the special mention stage is functionally reactive: it prescribes responses to payment failure rather than systematic oversight designed to anticipate it. A borrower on a deterioration trajectory who has not yet missed a payment falls entirely outside the framework's action thresholds. Four structural constraints compound this reactive posture, as presented in Table 3.

Table 3. Structural Constraints on Monitoring at BPR PMM

Structural Constraint	Operational Impact	Supporting Evidence
High account-to-AO ratio (70–80 per AO)	Monitoring attention flows to already-delinquent accounts; early-stage deterioration receives least oversight	Nova C.H Samip; Haryanti (Operations Director)
No risk-differentiated monitoring protocol	Each AO independently sets visit frequency; inconsistent outcomes across portfolio	Wilhelm Boris Flimonsa Soplanit (personal segmentation, not institutional); Zulfikar: CBS data available but not used
No monitoring compliance log / visit record	Supervisory oversight impossible; no institutional memory when AO transfers accounts	Mardiana: inherits problem accounts with no monitoring history; Haryanti: consequence only appears after default
No dedicated collection function	AOs split time between proactive monitoring and reactive delinquency follow-up; urgent displaces proactive	Irfan Supriyatna: AO field time consumed by alerts, performing accounts under-monitored

Source: Author's thematic analysis of interview data (2025)

The monitoring gap at BPR PMM is accordingly not primarily one of individual AO effort it is one of institutional design (OJK, 2015). Haryanti confirmed the accountability vacuum directly: 'If an AO does not monitor a borrower and nothing happens the borrower keeps paying then nothing happens to the AO either. The consequence only comes when a loan goes bad. By then it is too late.' This finding confirms Credit Supervision Theory's core proposition (McLeod*, 2004, cited in Rusdianti et al., 2018): continuous post-disbursement oversight is structurally inseparable from credit quality outcomes in environments of rapid borrower-side volatility.

DISCUSSION

SOP Implementation and Governance Consistency

BPR PMM's SOPs are formally adequate multiple respondents confirmed that the written procedures are structurally aligned with OJK requirements. The problem is the institutionalised gap between what is prescribed and what is practised. Three governance failures drive this gap and together produce a systematic erosion of the internal control architecture (Monalisa & Sugiarto, 2022; COSO, 2023).

First, incomplete-file disbursement has been normalised as standard practice. Wilhelm Boris described how the systematic use of post-disbursement document follow-ups has eliminated borrower leverage for document completion, converting a compliance exception into the institutional default. Nazaruddin identified the structural remedy that is absent: 'In a commercial bank, any deviation requires written escalation one level above the approving authority, with an explicit target completion date. We do not have that mechanism here.' This gap is consistent with COSO's (2023) Internal Control Integrated Framework's emphasis on formal deviation escalation protocols as a necessary component of effective control environments.

Second, the maker-checker mechanism's independence is compromised by information asymmetry and relationship override, consistent with Alnabulsi et al.'s (2023) finding that governance quality mediates the relationship between SOP design and actual NPL outcomes. Third, the incentive structure rewards disbursement volume while leaving portfolio quality unmeasured in performance evaluation, creating systematic misalignment between individual AO behaviour and institutional credit quality objectives. Nazaruddin's structural diagnosis captures the governance failure clearly: 'Marketing is chasing targets; operations is protecting the institution. Management has to be the referee. If management sides with marketing, operations cannot hold the line alone.' This incentive misalignment pattern is documented by Monalisa and Sugiarto (2022) as a leading internal determinant of NPL formation in Indonesian rural banks.

Integrated Causal Analysis

The three failure layers identified at BPR PMM are not additive but multiplicative in their combined effect on NPL outcomes. The structural root cause is incentive misalignment: an AO reward structure measuring disbursement volume while leaving portfolio quality entirely unmeasured creates systematic adverse incentives at every stage of the credit lifecycle. Supporting structural factors include the absence of a risk-differentiated monitoring protocol, the absence of a TBO (Tanda Bukti Originasi) deviation escalation mechanism, and the absence of a monitoring compliance log. Contextual amplifiers Papua's political transition effects on SPK payment flows, declining collateral values in Keerom Regency, and increased MSME competitive pressures accelerated deterioration without creating the underlying structural fragility.

Based on interview evidence and validated by external practitioners, five recommendations are proposed: (1) A standardised income verification protocol requiring at least three independent cross-references before omset figures are accepted in credit analysis; (2) A mandatory SLIK-first and character pre-assessment protocol institutionalising current best practice as the non-negotiable starting point for all AO credit reviews; (3) A three-tier risk-based monitoring schedule calibrated to account risk profile rather than delinquency status institutionalising individual officer segmentation approaches as a formal standard; (4) A central monitoring visit log integrated into the CBS with mandatory completion before month-end close; and (5) A TBO deviation mechanism combined with KPI rebalancing to assign portfolio quality a minimum 50 percent weight in AO performance evaluation, directly aligning individual incentives with institutional credit quality objectives.

CONCLUSION

This study demonstrates that BPR PMM's NPL trajectory is the product of specific, identifiable, and addressable internal operational failures. AO competence gaps manifest through collateral over-weighting, omset inflation, and fund diversion at the origination stage. Monitoring is structurally reactive, with no risk-differentiated protocol or compliance log. SOP governance failures normalise incomplete-file disbursement and sustain incentive misalignment between disbursement volume and portfolio quality. These three layers interact and reinforce each other, making the NPL problem structural rather than incidental. Five recommendations are proposed, each grounded in interview evidence from BPR PMM respondents and validated by external practitioners: (1) a standardised income verification protocol requiring at least three independent cross-references; (2) a mandatory SLIK first and character assessment protocol institutionalising Mardiana's personal practice as the standard for all AOs; (3) a three-tier risk-based monitoring schedule institutionalising Wilhelm Boris Flimonsa Soplanit's personal risk-segmentation; (4) a central monitoring visit log maintained in the CBS; and (5) a TBO document mechanism combined with KPI rebalancing to give portfolio quality 50 percent weight in AO incentives.

LIMITATION

This study has several limitations. First, it employs a qualitative single-case study design focusing exclusively on BPR Papua Mandiri Makmur. While this approach provides an in-depth understanding of the internal operational mechanisms contributing to Non-Performing Loans (NPLs), the findings cannot be generalized to all rural banks in Indonesia because institutional characteristics, governance structures, and regional economic conditions may differ. Second, the study relies primarily on interview data and internal institutional documents. Although data triangulation was conducted through multiple respondent groups and supporting documentation, some findings remain dependent on participants' perceptions and experiences, which may introduce subjective bias. Third, this research concentrates on internal operational factors, including Account Officer competence, monitoring practices, and SOP implementation, without quantitatively examining the influence of external determinants such as regional macroeconomic conditions, regulatory changes, borrower financial capability, or sector-specific business risks. Future studies are therefore encouraged to adopt comparative multi-case designs involving several BPRs across different regions, integrate qualitative and quantitative approaches, and evaluate both internal governance factors and external environmental variables to provide more comprehensive evidence on the determinants of NPLs.

REFERENCES

- Akhter, N. (2023). Determinants of commercial bank's non-performing loans in Bangladesh: An empirical evidence. *Cogent Economics & Finance*, 11(1), 2194128. <https://doi.org/10.1080/23322039.2023.2194128>
- Alnabulsi, K., Kozarević, E., & Hakimi, A. (2023). Non-Performing Loans as a Driver of Banking Distress: A Systematic Literature Review. *Commodities*, 2(2), 111–130. <https://doi.org/10.3390/commodities2020007>
- Arslan, M., & Alqatan, A. (2020). Role of institutions in shaping corporate governance system: Evidence from emerging economy. *Heliyon*, 6(3), e03520. <https://doi.org/10.1016/j.heliyon.2020.e03520>

- Awu, E., Darius, B., & Chimele, M. P. (2025). Human Capital Theory: Viewing Employees As Organizational Asset. *International Journal of Academic Management Science Research (IJAMSR)*, 9(3).
- Becker, G. S. (2009). *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. University of Chicago Press.
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Budiarto, A. (2021). *The Impact of Non-Performing Loans Towards Financial Performance of BPR in Central Java, the Role of Empathy Credit Risk*: 4th International Conference on Sustainable Innovation 2020-Accounting and Management (ICoSIAMS 2020). <https://doi.org/10.2991/aer.k.210121.035>
- Fakhrunnas, F., & El Hasanah, L. L. N. (2022). The Determinants of Islamic Banks' Non-Performing Financing in the Small-Medium Enterprises (SMEs) Sector. *Jurnal Ekonomi & Studi Pembangunan*, 23(2), 220–230. <https://doi.org/10.18196/jesp.v23i2.15562>
- Hasanah, N., Tindaon, S. S., Putranto, R. A., & Nugraha, H. (2025). Analysis Of Non-Performing Loans Handling Strategy Using The 5C Approach at The Regional Public Company (Perumda) Rural Bank (BPR) Bank Gresik. *JMBI: Jurnal Manajemen Bisnis Dan Informatika*, 6(1). <https://doi.org/10.31967/prodimanajemen.v6i1.1839>
- Ilelaboye, C. S., & Alade, M. E. (2025). Monitoring Activities and Non Performing Loans of Financial Institutions in Nigeria. *Copernican Journal of Finance & Accounting*, 13(4). <https://doi.org/10.12775/CJFA.2024.017>
- Khairi, A., Bahri, B., & Artha, B. (2021). A Literature Review of Non-Performing Loan. *Journal of Business and Management Review*, 2(5), 366–373. <https://doi.org/10.47153/jbmr25.1402021>
- McLeod*, R. H. (2004). Dealing with bank system failure: Indonesia, 1997–2003. *Bulletin of Indonesian Economic Studies*, 40(1), 95–116. <https://doi.org/10.1080/0007491042000205222>
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (Fourth edition). John Wiley & Sons.
- Monalisa, Y. & Sugiarto. (2022). The Internal Model of Default Credit for Rural Banks in Indonesia. *International Journal of Sustainable Development and Planning*, 17(7), 2297–2308. <https://doi.org/10.18280/ijstdp.170731>
- OJK. (2023). *Statistik Perbankan Indonesia* (22(1)). Otoritas Jasa Keuangan.
- Ozili, P. K. (2025). Bank non-performing loans research around the world. *Asian Journal of Economics and Banking*, 9(3), 437–462. <https://doi.org/10.1108/AJEB-09-2024-0103>
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (Sixth edition). SAGE.

Zamore, S., Ohene Djan, K., Alon, I., & Hobdari, B. (2018). Credit Risk Research: Review and Agenda. *Emerging Markets Finance and Trade*, 54(4), 811–835.
<https://doi.org/10.1080/1540496X.2018.1433658>