

Bridging the Agility Gap: A Strategic Framework for Commercial Banks to Enter the Un-Banked Lending Market

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Keywords:	Abstract
API-driven Ecosystem Financing Model; Information Asymmetry; Unbanked MSMEs.	Extending sustainable finance to Indonesia's unbanked Micro, Small, and Medium Enterprise (MSME) sector presents a structural paradox. Traditional commercial banks possess a significant competitive advantage through access to low-cost capital, yet they are consistently disintermediated by fintech disruptors that offer faster services despite charging higher interest rates. This research investigates the root causes of this market displacement based on the theories of Information Asymmetry and Transaction Cost Economics (TCE). By integrating empirical data from a Principal Component Analysis (PCA) of MSME market demands and an Analytic Hierarchy Process (AHP) of banking executive priorities, this study identifies the specific areas where conventional banking models fail to meet market expectations. It develops a 12-cell Strategic Alignment Matrix that reveals a critical agility gap. To address this challenge, this paper proposes a paradigm shift toward an API-driven, B2B2C (Business-to-Business-to-Customer) Ecosystem Financing Model. This redesigned business process leverages open banking, smart contract automation, and closed-loop disbursement mechanisms to achieve fintech-level service speed. By systematically reducing operational costs through technology integration, banks can accommodate a realistic 4.5% Non-Performing Loan (NPL) rate while maintaining the risk tolerance required for sustainable and accelerated financial inclusion.

INTRODUCTION

The Indonesian financial landscape is characterized by a severe structural mismatch. Established commercial banks hold vast reserves of low-cost capital through Current Account Savings Account (CASA) deposits. However, when attempting to deploy this capital to the “credit-invisible” MSME sector, they frequently encounter significant challenges. The academic consensus indicates that this failure is not due to a lack of market demand, but rather to a fundamental incompatibility between conventional banking models and the operational characteristics of MSMEs. The primary barrier is substantial information asymmetry. A significant proportion of Indonesian MSMEs operate informally, lacking audited financial statements and clear separation between personal and business cash flows (Aulia et al., 2024). Furthermore, based on Williamson's (1981) Transaction Cost Economics (TCE) perspective, the administrative costs associated with traditional loan origination processes, including manual underwriting, due diligence, and collateral registration, are largely fixed. Because MSME loan amounts are generally small, the cost-to-serve frequently exceeds the potential interest margin, making conventional micro-lending economically inefficient (Naeve, 2022; Pereira, 2023).

The inability of incumbent banks to capture the micro-economy is rooted in fundamental differences between how traditional banks assess risk and how MSMEs actually operate (Gambacorta et al., 2023; Tigges et al., 2024). The financial data gap represents a major challenge, as traditional commercial banking underwriting relies heavily on historical financial analysis (Wahlstrøm et al., 2024; Boot et al., 2021). To approve commercial loans, banks typically require audited balance sheets, income statements, and structured cash-flow records to calculate debt-service capacity (Chen, 2022). However, the unbanked MSME sector predominantly operates within the informal economy (Allen et al., 2019). Their financial data are often unavailable, unrecorded, or mixed with personal household expenses (Khan, 2022). This condition creates a significant "credit-invisible" gap (Huang et al., 2023). Under conventional banking models, the absence of standardized financial information often results in automatic loan rejection.

The collateral dilemma and regulatory constraints further intensify this challenge. To compensate for limited financial transparency, traditional banks generally rely on collateral-based lending mechanisms. This creates an additional structural barrier because many micro-enterprises do not possess sufficient unencumbered assets. Although Indonesian regulations allow movable assets to be used as collateral through fiduciary guarantees, the practical infrastructure for asset valuation and liquidation remains limited, causing banks to adopt highly risk-averse lending practices. This risk aversion is reinforced by strict prudential regulations enforced by the Financial Services Authority (Otoritas Jasa Keuangan [OJK]). Commercial banks are highly regulated institutions, and increases in Non-Performing Loans (NPLs) can directly affect capital adequacy requirements. Constrained by limited MSME financial data, insufficient collateral availability, and stringent regulatory compliance, traditional banks have historically struggled to effectively serve this market segment (Mittal & Raman, 2022; Saifurrahman & Kassim, 2024; Singh, 2024; Wansi & Burrell, 2023).

The rise of fintech and its inherent limitation emerged from this market gap (Cornelli et al., 2023). This situation created a large opportunity that was rapidly captured by digital fintech companies and Peer-to-Peer (P2P) lending platforms (Gopal & Schnabl, 2022). These disruptors bypassed conventional financial assessment processes by applying Alternative Credit Scoring (ACS), which utilizes large-scale digital footprint data to support real-time, collateral-free credit decisions (Djeundje et al., 2021). However, the fintech model also has fundamental limitations. Although fintech providers excel in technological agility, they generally lack access to low-cost public deposits (Current Account Savings Account [CASA]) (Vives & Ye, 2025). To compensate for higher wholesale funding costs, fintech companies often apply higher risk premiums, which may place MSMEs in cycles of expensive borrowing (Yue et al., 2022).

Despite the growing number of studies on financial inclusion and fintech disruption in Indonesia, significant research gaps remain. Existing studies have generally examined the banking sector and fintech industry separately rather than investigating how traditional banks can strategically utilize their low-cost capital advantages to compete

effectively in the micro-lending market. Although Alternative Credit Scoring has been widely discussed, limited research has explored how commercial banks can integrate alternative data sources into existing risk management frameworks while maintaining regulatory compliance. Furthermore, the Transaction Cost Economics perspective remains underexplored in MSME lending, particularly regarding how technology integration can systematically reduce cost-to-serve ratios and improve the economic feasibility of micro-lending. In addition, empirical studies that simultaneously quantify MSME market demands and banking executive priorities remain limited, resulting in strategic recommendations that are often theoretical or disconnected from operational realities. Few studies have proposed practical and implementable frameworks capable of bridging the agility gap between traditional banking institutions and fintech competitors.

This research offers several novel contributions, including the development of a 12-cell Strategic Alignment Matrix that systematically maps MSME market demands using Principal Component Analysis (PCA) against banking executive priorities using the Analytic Hierarchy Process (AHP), as well as the introduction of an API-driven B2B2C (Business-to-Business-to-Customer) Ecosystem Financing Model as a strategic shift from conventional B2C (Business-to-Customer) micro-lending. This study demonstrates how commercial banks can achieve fintech-level processing speed while maintaining banking-grade risk accuracy through open banking integration. It also introduces a strategic NPL tolerance framework of 4.5% as a calculated risk-acceptance threshold, accompanied by an OKR (Objectives and Key Results)-based implementation roadmap. The research objectives are to identify the root causes of inefficiencies in conventional banking models, map the operational disconnect between MSME market demands and banking executive priorities, formulate the Strategic Alignment Matrix, develop the Ecosystem Financing Model, establish an NPL tolerance threshold, and provide measurable implementation frameworks. The findings are expected to benefit commercial banks by providing strategic guidance for profitable micro-lending, MSMEs through improved access to affordable institutional credit, policymakers through evidence-based regulatory frameworks, fintech companies through collaboration opportunities, academic communities through theoretical and methodological contributions, and the Indonesian economy through accelerated financial inclusion and more equitable capital distribution.

METHOD

To formulate a strategic response, this study moved beyond theoretical analysis by quantifying the operational disconnect between MSME market demands and banking priorities. A survey was conducted among unbanked MSMEs ($N = 41$) based on 10 specific attributes. Pre-analysis testing confirmed the suitability of the data for further analysis ($KMO = 0.742$; Bartlett's Test, $p < 0.001$). The Principal Component Analysis (PCA) extracted two dominant latent factors that explained 68.70% of the total variance. Simultaneously, the Analytic Hierarchy Process (AHP) was applied to quantify internal banking priorities based on assessments from key decision-makers, including the Chief Risk Officer (CRO), Credit Risk Head, and Business Heads. The AHP results indicated a

significant strategic shift, as banking executives recognized the limitations of conventional financial ratio analysis in the micro-segment and prioritized the acquisition of reliable alternative data sources to improve credit assessment.

RESULTS AND DISCUSSION

Table 1. PCA Factor Loadings

Survey Attribute	Factor 1: Institutional Stability & Cost	Factor 2: Operational Agility & Convenience
Trust 1: Data security confidence	0.854	0.112
Trust 2: Long-term reliability	0.854	0.154
Pricing 1: Fair interest rates	0.811	0.201
Pricing 2: No hidden costs	0.762	0.245
Speed 1: Fast decision-making	0.185	0.824
Speed 2: Fast disbursement	0.210	0.757
Accessibility 2: Minimal documents	0.288	0.723
Accessibility 1: Easy info access	0.315	0.604
Flexibility 1: Cash flow matching	0.401	0.544
Flexibility 2: Custom terms	0.355	0.440

Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Eigenvalues > 1.0.

Table 2. AHP Executive Risk & Capability Mandates

Rank	Strategic Criterion	Description
1	Data Reliability	Sourcing verified, trusted data pipelines to bypass the lack of MSME financial statements.
2	Integration Agility	Embedding banking API architecture directly into external B2B platforms.
3	System Automation	High interoperability to radically reduce manual human intervention.
4	Risk Mitigation Accuracy	Absolute avoidance of fraud to maintain strict OJK regulatory compliance.
5	Scalability	Growing loan volumes exponentially without a linear increase in headcount.
6	Operational Efficiency	Driving down internal administrative cost-of-funds.

Source: Primary Data Processing (Banking Executive AHP Survey, 2025)

Note: Consistency Ratio (CR) < 0.10, indicating mathematically consistent executive judgments.

How do we reconcile a market demanding instant cash (PCA Factor 2) with a bank demanding stringent data reliability (AHP)?

Table 3. TOWS Strategic Alignment Matrix

	Strengths (Bank's Mandates)	(Bank's AHP Data Reliability, Integration Agility, System Automation, Risk Accuracy, Scalability, Efficiency)	Weaknesses (Legacy Architecture)	(Legacy Manual Underwriting, Rigid Collateral Needs, High Cost-to-Serve)
Opportunities (PCA Factor 1)	SO Strategies (Natural Alignment):		WO Strategies (Strategic Pivot):	
Market Demand for Institutional Stability & Low-Cost Capital	Leverage internal efficiency and risk accuracy to deploy CASA funds safely, satisfying the MSME need for fair, low interest rates.		Build API pipelines to Corporate ERPs to extract reliable alternative data, bypassing the MSME's inability to provide financial statements.	
Threats (PCA Factor 2)	ST Strategies (Market Defense):		WT Strategies (The Inherent Conflict):	
Market Demand for Instant Agility & Minimal Paperwork (Fintech Domain)	Utilize System Automation to achieve Straight-Through Processing (STP), matching fintech speed while maintaining banking-grade risk accuracy.		AVOID DIRECT B2C LENDING. Forcing highly accurate manual human underwriting onto a market demanding 60-minute disbursements guarantees failure.	

Source: Author's Compilation based on PCA and AHP Results (2025)

To execute the WO and ST Strategies identified in the TOWS analysis, Commercial Banks must transition to an Ecosystem Financing Model, deployed across four operational stages:

1. API-Driven Origination

Establish direct API connections with the Enterprise Resource Planning (ERP) systems of Corporate Anchor Buyers to extract verified payable ledgers directly from the source.

2. Tri-Party Straight-Through Processing (STP)

MSMEs upload digital invoices to a shared portal validated by the Corporate Anchor in real-time.

3. Smart-Contract Fraud Mitigation

Automated Optical Character Recognition (OCR) matches the MSME's invoice against the Corporate Anchor's API ledger, triggering an Irrevocable Payment Undertaking (IPU).

4. Closed-Loop Capital Disbursement

Funds are disbursed strictly into closed-loop Virtual Accounts (VAs) designated for verified sub-supplier payments. Final repayment originates directly from the Corporate Anchor.

Strategic formulation is irrelevant without measurable execution. To ensure the Ecosystem Financing model translates to operational reality, Bank must utilize a stringent OKR framework.

Table 4. Ecosystem Financing Implementation OKRs

Strategic Phase	Objective	Key Results (Performance Metrics)
1. Origination	Eliminate manual onboarding via reliable ERP data extraction.	• 99.9% API uptime with Corporate Anchors. • Reduce MSME onboarding time to < 24 hours.
2. Processing	Match fintech velocity while driving down administrative costs.	• Achieve 85% Straight-Through Processing (STP). • Time-to-Decision (TTD) < 60 minutes for e-invoices.
3. Risk Mitigation	Automate fraud detection via smart-contract matching.	• Maintain a 100% Zero-Fraud Cross-Validation index. • Manual underwriter escalation < 10% of volume.
4. Disbursement	Secure capital deployment through closed-loop architecture.	• Target < 4.5% Non-Performing Loan (NPL) rate. • 100% disbursement routing through closed-loop VAs.

Source: Author's Framework Formulation (2025)

CONCLUSION

This research diagnosed the root causes of friction within legacy banking models and formulated a strategic resolution that directly addressed the core research questions. To accurately assess the creditworthiness of “credit-invisible” MSMEs through alternative data and innovative credit scoring approaches, the optimal model required shifting from direct B2C (Business-to-Customer) micro-lending toward a B2B2C (Business-to-Business-to-Customer) Ecosystem Financing architecture. Rather than relying on conventional financial statements, banks should establish direct API integrations with the Enterprise Resource Planning (ERP) systems of corporate anchor buyers to extract verified and traceable payable records that could serve as reliable credit-scoring inputs based on supply-chain data rather than limited historical information from micro-enterprises. The sustainability potential of this model was considered strong because it leveraged banks’ inherent competitive advantages, particularly through technology integration and improved data reliability. The PCA results indicated that, despite the availability of fintech alternatives, trust and fair pricing remained the primary concerns among MSMEs, while transaction speed represented a secondary priority. By implementing seamless API integration to ensure reliable data availability, banks could apply Straight-Through Processing (STP) to achieve fintech-level processing speed. Once this capability was established, MSMEs were expected to prefer trusted commercial banks that offered substantially lower-cost financing compared with informal lenders or fintech alternatives. The 12-cell Strategic Alignment Matrix and TOWS analysis indicated a Weakness-Opportunity (WO) strategy, suggesting that banks should adopt frictionless digital onboarding mechanisms similar to alternative lenders while

strengthening risk control through internal AHP-derived priorities for data reliability and system automation. The model utilized corporate API-based data for risk assessment and distributed financing exclusively through closed-loop virtual accounts to structurally reduce credit risk exposure.

To operationalize these findings, banks needed to redefine their micro-lending risk profile because applying a 2.0% corporate NPL target to the unbanked micro-segment was structurally unrealistic. Based on OJK data, traditional MSME NPL levels were approximately 4.04%, while uncollateralized fintech lending measured through TWP90 ranged between 4.3% and 4.6%. The B2B2C Ecosystem Financing model relied on a strategic trade-off: through API-based loan origination and Straight-Through Processing (STP), banks could significantly reduce customer acquisition costs and administrative cost-to-serve, creating sufficient financial capacity to accommodate a realistic 4.5% NPL threshold. This calculated risk tolerance, supported by closed-loop virtual account disbursement mechanisms, provided banks with the operational flexibility required to expand API infrastructure, onboard additional corporate anchor partners, and establish a sustainable financing position within Indonesia's micro-enterprise ecosystem.

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