

Fintech and MSME Resilience in Post-Pandemic Indonesia: Balancing Innovation, Inclusion, and Governance

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Abstract

Micro, Small, and Medium Enterprises (MSMEs) are the backbone of Indonesia's economy but remain highly vulnerable to external shocks. The COVID-19 pandemic exposed these vulnerabilities, forcing many MSMEs to adapt rapidly or shut down. Financial technology (fintech) emerged as a critical enabler by expanding access to alternative financing, facilitating digital transactions, and supporting business continuity. This study examines the role of fintech in MSME development and its contribution to Indonesia's post-pandemic recovery, with particular attention to governance, accountability, and inclusivity. Using a qualitative descriptive approach, the study draws on secondary data from regulatory agencies, international institutions, and scholarly literature. The findings highlight fintech's positive contributions, including growth in peer-to-peer (P2P) lending and widespread adoption of digital payment systems such as e-wallets and QRIS, which integrated MSMEs into the digital economy. However, challenges persist in the form of limited digital literacy, uneven rural access, and regulatory failures evidenced by the proliferation of illegal lending platforms. The discussion emphasizes the importance of balancing innovation with accountability. State accountability requires stronger enforcement, consumer protection, and equitable access policies. Corporate responsibility entails ethical practices, data protection, and extending services to underserved communities. Together, these measures can embed fintech within a governance framework that ensures inclusivity and long-term resilience. The study concludes that fintech's role in economic recovery should be understood not merely as a technological solution but as a socio-economic institution that must align with sustainable development and inclusive growth goals.

Keywords: *Financial technology; MSMEs; Digital inclusion; Economic recovery; Governance*

Introduction

Micro, Small, and Medium Enterprises (MSMEs) are widely recognized as the backbone of Indonesia's economy, contributing more than 60% of gross domestic product (GDP) and employing the majority of the workforce (BPS, 2022). However, MSMEs are also among the most vulnerable to external shocks. The

COVID-19 pandemic disrupted supply chains, reduced consumer demand, and limited mobility, leaving millions of MSMEs struggling to sustain operations. The Ministry of Cooperatives and SMEs (2021) reported that more than 50% of MSMEs experienced significant declines in revenue during the pandemic, with many forced to close temporarily or permanently. Against this backdrop, digital solutions such as financial technology (fintech) have emerged as key enablers for resilience and recovery.

Fintech in Indonesia has grown rapidly in recent years. According to Otoritas Jasa Keuangan (OJK, 2022), more than 300 licensed fintech companies operate across sectors such as peer-to-peer lending, digital payments, and crowdfunding. These platforms provide alternative financing, digital transaction systems, and business tools that are particularly relevant for MSMEs, which traditionally face barriers in accessing formal bank credit due to lack of collateral, limited financial literacy, and informality of operations (World Bank, 2020). By reducing transaction costs, broadening financial inclusion, and offering more flexible services, fintech has become a potential catalyst for strengthening MSME competitiveness.

Despite its potential, the integration of fintech into MSME development is not without challenges. Issues of digital literacy, uneven access to technology, regulatory gaps, cybersecurity risks, and the threat of over-indebtedness have raised concerns about whether fintech truly delivers inclusive and sustainable benefits. Recent studies highlight that while fintech has improved short-term access to liquidity for MSMEs, its long-term developmental role remains underexplored (Arner et al., 2020; Demirgüç-Kunt et al., 2022). Moreover, regulatory oversight has not always kept pace with innovation. Cases of illegal lending platforms, predatory practices, and data misuse illustrate governance weaknesses that may undermine public trust (Rahman & Nugroho, 2021).

From a policy perspective, the Indonesian government has positioned digital transformation as a cornerstone of post-pandemic recovery. Initiatives such as the *Gerakan Nasional Bangga Buatan Indonesia (BBI)* and the digitalization roadmap for MSMEs aim to expand digital market access and accelerate fintech adoption (KemenkopUKM, 2021). However, gaps remain in aligning fintech growth with broader development goals such as equitable access, consumer protection, and sustainable financing. While fintech adoption is rising in urban centers, rural MSMEs—where digital infrastructure and literacy are weaker—risk being left behind. This unevenness raises questions about inclusivity and long-term resilience.

The academic literature on fintech and MSMEs has expanded but remains fragmented. Much research emphasizes the technological and financial aspects—such as efficiency, innovation, and credit access—while less attention has been paid to the governance and policy dimensions. There is a need for deeper analysis of how fintech can balance its role as a market-driven innovation with broader responsibilities toward accountability, consumer protection, and inclusive development (Ozili, 2021). In particular, few studies have examined how fintech contributes to economic recovery in the context of crises such as COVID-19, and what governance mechanisms are required to ensure its sustainability.

This study addresses these gaps by exploring the role of fintech in supporting MSME development and economic recovery in Indonesia, with attention to both opportunities and governance challenges. Specifically, it asks: How has fintech contributed to MSME resilience during the pandemic? What are the regulatory and policy gaps in ensuring fintech’s accountability and sustainability? And how can fintech innovation be harnessed to strengthen long-term economic recovery?

The significance of this research lies in its dual focus on practice and governance. Practically, it contributes insights into how MSMEs are adopting fintech services and what barriers remain. From a governance perspective, it highlights regulatory failures, corporate responsibilities, and state accountability in managing the risks of digital finance. By situating fintech within the broader discourse of financial inclusion and sustainable development, this study provides both theoretical and policy contributions.

The remainder of the paper is structured as follows. The literature review synthesizes key debates on fintech, MSME financing, and governance. The methodology section outlines the qualitative descriptive approach. Findings present fintech’s role in MSME recovery, while the discussion analyzes these findings through the lenses of inclusivity, accountability, and resilience. The conclusion highlights contributions and policy implications for ensuring fintech serves as an engine of sustainable economic recovery.

Literatur Review

Fintech and Financial Inclusion

Financial technology (fintech) has become an important driver of financial inclusion worldwide. By leveraging digital platforms, fintech enables individuals and small businesses to access financial services that were previously limited by geography, collateral requirements, or institutional barriers (Demirgüç-Kunt et al., 2022). For MSMEs, fintech expands access to credit, facilitates digital transactions, and reduces dependency on informal finance (Arner et al., 2020). In Indonesia, fintech is particularly significant given that approximately 80% of MSMEs remain underserved by formal banks (World Bank, 2020).

Digital payments and peer-to-peer (P2P) lending are the most prominent fintech services for MSMEs. P2P lending platforms provide faster and more flexible financing compared to conventional banks, while e-wallets facilitate transactions and integration with online marketplaces. These innovations are aligned with global trends, where fintech is increasingly recognized as an enabler of entrepreneurship and small business resilience (Ozili, 2021).

MSMEs in the Digital Economy

MSMEs are central to Indonesia's economic structure, contributing over 60% to GDP and absorbing more than 97% of employment (BPS, 2022). However, their productivity and competitiveness lag behind larger firms due to limited access to finance, technology, and skills (Tambunan, 2019). The COVID-19 pandemic exacerbated these challenges. According to the Ministry of Cooperatives and SMEs (2021), more than half of MSMEs reported a significant decline in revenue during the pandemic. For many, digital adoption—including fintech—was not just an opportunity but a necessity for survival.

Studies highlight that MSMEs using digital tools were more resilient during COVID-19, maintaining operations and even expanding their markets through e-commerce (Utami & Nugroho, 2021). Fintech complemented this transition by providing liquidity and digital payment systems that integrated seamlessly with online platforms. However, adoption rates remain uneven, with rural and micro enterprises often excluded due to low digital literacy and weak infrastructure (KemenkopUKM, 2021).

Governance and Regulation of Fintech

While fintech presents opportunities, it also introduces risks. Weak regulatory oversight has allowed illegal lending platforms (*pinjol ilegal*) to proliferate in Indonesia, leading to predatory practices, data misuse, and consumer

exploitation (Rahman & Nugroho, 2021). OJK has responded with licensing requirements and consumer protection measures, but challenges remain in enforcement and public awareness (OJK, 2022).

From a governance perspective, fintech raises questions about state accountability, corporate responsibility, and regulatory capacity. Fintech companies, driven by profit motives, may prioritize rapid market expansion over consumer welfare, while regulators often struggle to keep pace with innovation (Zetsche et al., 2020). This creates a regulatory lag where risks accumulate before adequate safeguards are in place. Ensuring inclusive and sustainable fintech development therefore requires a multi-stakeholder approach involving government, industry, and civil society.

Fintech and MSME Resilience in Crises

Research on fintech adoption during crises has shown mixed results. On one hand, fintech can provide quick liquidity and alternative financing when traditional systems are disrupted (Arner et al., 2020). On the other, over-reliance on short-term credit may increase indebtedness, particularly among vulnerable MSMEs with weak financial literacy (Ozili, 2021). In Indonesia, fintech lending to MSMEs increased significantly during the pandemic, but repayment challenges also rose (OJK, 2022).

Recent studies emphasize that fintech's contribution to resilience depends on complementary factors such as digital literacy, institutional support, and financial regulation (Demirgüç-Kunt et al., 2022; Setiawan & Yuliani, 2022). Without these, fintech adoption may deepen inequalities, as digitally capable MSMEs benefit while marginalized enterprises are left behind.

Research Gap

Although fintech's role in promoting MSME inclusion has been widely studied, several gaps remain. First, most research focuses on fintech's technical and financial aspects, such as transaction efficiency and credit access, with less emphasis on **governance and accountability frameworks**. Second, while adoption studies highlight benefits for MSMEs, fewer examine the **risks of indebtedness, data protection, and uneven access**, particularly in rural and low-income contexts. Third, the role of fintech in **post-crisis economic recovery** is underexplored, especially in developing economies like Indonesia where MSMEs are both highly vulnerable and highly significant.

This study addresses these gaps by analyzing fintech not only as a technological innovation but also as a socio-economic and governance issue. It

situates fintech's role within Indonesia's post-pandemic recovery, asking how digital finance can balance growth and innovation with accountability, inclusivity, and long-term resilience.

Methodology

This study employed a **descriptive qualitative approach** to analyze the role of financial technology (fintech) in supporting Micro, Small, and Medium Enterprises (MSMEs) and its contribution to post-pandemic economic recovery in Indonesia. The qualitative design was chosen to capture the dynamics of fintech adoption, regulatory frameworks, and policy responses, which are not easily reducible to quantitative indicators alone.

Data Sources

The research relied primarily on **secondary data** collected from multiple sources. These included official reports and statistics from the **Otoritas Jasa Keuangan (OJK)**, Bank Indonesia (BI), and the Ministry of Cooperatives and SMEs; publications from international organizations such as the **World Bank** and **OECD**; and peer-reviewed journal articles focusing on fintech adoption, MSME financing, and digital inclusion. Media reports and policy documents were also reviewed to capture recent developments, particularly concerning illegal lending, regulatory enforcement, and government-led digitalization programs.

Data Collection and Analysis

Data collection involved systematic **document review**, focusing on materials published between 2018 and 2023 to ensure relevance to the post-COVID recovery context. Key themes extracted included: (1) fintech's contribution to MSME financing and inclusion, (2) opportunities and challenges of fintech adoption, (3) regulatory frameworks and governance issues, and (4) policy initiatives for digital transformation.

The analysis followed a **thematic content analysis** approach. Documents were coded and categorized according to the study's guiding questions: How has fintech contributed to MSME resilience during the pandemic? What governance and regulatory gaps exist? How can fintech innovation be aligned with sustainable recovery? The findings were then synthesized to identify patterns, contradictions, and policy implications.

Limitations

As a qualitative study relying on secondary data, the analysis is limited by the availability and scope of existing reports. Primary field data from MSMEs or fintech providers were not collected, which may restrict the depth of micro-level

insights. Nonetheless, triangulating multiple sources enhances the credibility and reliability of the findings.

Results And Discussions

Findings

Fintech as an Enabler of MSME Financing

The study finds that fintech has become a crucial enabler of MSME access to finance in Indonesia, particularly during the COVID-19 pandemic. Peer-to-peer (P2P) lending platforms provided quick and relatively flexible financing alternatives compared to conventional bank loans. Data from OJK (2022) show that fintech lending grew by more than 70% between 2020 and 2021, with a significant portion directed toward MSMEs that faced liquidity shortages. Unlike banks, which often require collateral and lengthy procedures, fintech lenders use digital data such as transaction histories, e-commerce sales, and mobile phone usage as alternative credit assessments. This has allowed previously unbanked or underbanked MSMEs to access much-needed capital.

Digital Payments and Business Adaptation

Digital payment systems also played an important role in helping MSMEs adapt to shifting consumer behaviors. The rise of e-wallets and QRIS-based payments enabled small businesses to participate in e-commerce and digital marketplaces, which experienced rapid growth during the pandemic (Bank Indonesia, 2021). For many micro-enterprises, digital payment adoption was the first step toward broader digitalization, facilitating integration into online platforms and enhancing operational efficiency. This trend contributed directly to sustaining sales and business continuity in a period of restricted mobility.

Challenges of Digital Literacy and Inclusion

Despite these gains, fintech adoption among MSMEs remains uneven. Micro and rural enterprises face barriers related to digital literacy, infrastructure, and trust in digital platforms. Studies indicate that many MSME owners, especially in rural areas, lack sufficient understanding of fintech products and remain dependent on cash-based transactions (Utami & Nugroho, 2021). Moreover, low financial literacy exposes some MSMEs to risks of over-indebtedness when using fintech loans, as they may underestimate repayment obligations or fail to assess long-term affordability.

Regulatory and Governance Issues

The rapid expansion of fintech has outpaced regulatory oversight. The proliferation of illegal online lending platforms (*pinjol ilegal*) has become a major concern. Between 2019 and 2022, OJK shut down more than 3,000 illegal platforms, many of which engaged in predatory practices, excessive interest charges, and misuse of personal data (OJK, 2022). These practices not only harmed consumers but also eroded public trust in digital finance. While the government has introduced licensing systems and consumer protection guidelines, enforcement remains uneven, and many MSMEs lack awareness of how to distinguish legitimate from illegal providers.

Policy Responses and Institutional Support

Government and institutional initiatives have sought to address these challenges. Programs such as the *Gerakan Nasional Bangga Buatan Indonesia (BBI)* and Bank Indonesia's digital economy roadmap emphasize accelerating digital adoption among MSMEs. Partnerships between fintech firms, state-owned banks, and cooperatives have been promoted to expand financial inclusion. However, gaps remain in ensuring equitable access across regions and in integrating fintech adoption with broader capacity-building efforts.

Table 1. Findings Matrix: MSME Financing Trend

Theme	Key Observations	Findings	Implications
MSME Financing	P2P lending, alternative credit scoring	Fintech loans grew >70% (2020–2021); MSMEs accessed credit without collateral	Improved liquidity for MSMEs but risk of over-indebtedness
Digital Payments	E-wallets, QRIS adoption	MSMEs adopted e-wallets and QRIS to reach e-commerce and digital platforms	Enabled business continuity during pandemic, integrated MSMEs into digital economy
Digital Literacy & Inclusion	Rural MSMEs, micro-enterprises	Many MSMEs lack digital literacy and remain cash-dependent	Uneven adoption widens the gap between urban and rural enterprises
Regulatory & Governance Issues	Illegal fintech platforms (pinjol ilegal)	>3,000 illegal platforms shut down by OJK (2019–2022)	Weak enforcement and low awareness threaten consumer trust
Policy & Institutional Support	National campaigns, digital roadmap, partnerships	BBI movement and BI initiatives accelerated digital adoption	Policies improved awareness but access gaps remain, esp. in rural areas

From table above, can be seen that fintech has made tangible contributions to MSME resilience during the pandemic by expanding access to credit, enabling digital payments, and supporting business continuity. Yet, persistent challenges—digital literacy gaps, uneven access, regulatory failures, and consumer protection risks—limit fintech’s ability to deliver inclusive and sustainable benefits. These findings suggest that fintech’s role in economic recovery cannot be understood solely in terms of technological innovation but must be examined within frameworks of governance, accountability, and policy alignment.

Discussion

The findings reveal that fintech has made significant contributions to MSME resilience during the COVID-19 pandemic, particularly in terms of access to financing and adoption of digital payments. However, they also highlight persistent challenges of digital literacy, uneven access, and governance failures. This section interprets these findings through the lenses of financial inclusion,

governance, and policy, emphasizing the implications for sustainable economic recovery.

Fintech as a Catalyst for MSME Resilience

The rapid growth of fintech lending and digital payments underscores its role as a catalyst for MSME resilience. By bypassing conventional banking barriers, fintech allowed MSMEs to access liquidity when they needed it most. This aligns with global evidence that fintech can democratize finance by offering flexible, data-driven lending models (Demirgüç-Kunt et al., 2022). Digital payments also proved transformative, enabling MSMEs to survive lockdowns by integrating into online marketplaces. These contributions highlight fintech's potential as a developmental tool when aligned with MSME needs.

Gaps in Digital Literacy and Inclusive Access

At the same time, the uneven adoption of fintech illustrates enduring structural inequalities. Rural and micro-enterprises often lack the digital skills and infrastructure required to benefit fully from fintech services. This digital divide risks creating a two-tier MSME landscape in which digitally capable firms thrive while others fall further behind (Utami & Nugroho, 2021). Addressing this requires policies that move beyond infrastructure provision to active capacity-building, including training programs and community-based digital literacy initiatives. Without such interventions, fintech may deepen rather than bridge socio-economic disparities.

Governance Failures and Regulatory Lag

The proliferation of illegal lending platforms highlights governance weaknesses in Indonesia's fintech ecosystem. Although OJK has taken steps to regulate and shut down illegal operators, enforcement gaps and limited consumer awareness persist (Rahman & Nugroho, 2021). This reflects a broader regulatory lag, where innovation outpaces oversight (Zetsche et al., 2020). Left unchecked, predatory practices undermine trust not only in fintech but also in broader financial inclusion efforts. Effective governance thus requires stronger monitoring systems, cross-agency coordination, and greater public education about legitimate providers and consumer rights.

State Accountability and Corporate Responsibility

Ensuring fintech contributes to sustainable recovery involves balancing innovation with accountability. From the state's perspective, accountability means designing regulatory frameworks that protect consumers, promote competition, and ensure fair access. This includes not only shutting down illegal operators but

also incentivizing fintech firms to extend services to underserved regions and MSMEs.

For fintech companies, corporate responsibility extends beyond profit-making to ethical practices, data protection, and consumer education. Industry associations can play a role by establishing codes of conduct and monitoring compliance. Partnerships between fintech firms, cooperatives, and state-owned banks may also help align corporate strategies with development goals by combining digital innovation with outreach capacity.

Fintech, Policy Integration, and Economic Recovery

Government initiatives such as the *Bangga Buatan Indonesia* (BBI) campaign and Bank Indonesia's digital roadmap represent important steps in promoting MSME digitalization. Yet, these efforts remain fragmented and unevenly distributed. Integrating fintech more systematically into recovery strategies requires a whole-of-government approach, aligning digital finance with policies on MSME development, financial literacy, and regional equity. For example, digital literacy campaigns could be embedded in existing MSME training programs, while remittance-linked fintech products could be developed to support rural entrepreneurs.

Long-Term Sustainability and Developmental Role

Beyond immediate recovery, fintech's long-term developmental role depends on whether it can be embedded in inclusive and accountable systems. If well-regulated and supported by capacity-building initiatives, fintech can help MSMEs not only survive crises but also build competitiveness in the digital economy. Conversely, if left unregulated, it risks creating cycles of indebtedness and inequality. This underscores the importance of treating fintech not merely as a technological solution but as a socio-economic institution requiring governance, accountability, and shared responsibility.

CONCLUSION

This study examined the role of financial technology (fintech) in supporting Micro, Small, and Medium Enterprises (MSMEs) and contributing to Indonesia's post-pandemic economic recovery. The findings confirm that fintech has played a significant role in enabling MSMEs to access alternative financing, adopt digital payment systems, and sustain operations during the COVID-19 crisis. By lowering barriers to credit and facilitating integration into digital marketplaces, fintech has demonstrated its potential as a catalyst for resilience and growth.

At the same time, the study highlights key challenges that constrain fintech's developmental impact. Uneven access, limited digital literacy among rural and micro-enterprises, and regulatory failures—particularly the proliferation of

illegal lending platforms—pose significant risks to both MSMEs and consumers. These challenges illustrate that fintech adoption, while beneficial, is not inherently inclusive or sustainable without supportive governance and institutional frameworks.

The analysis underscores the importance of balancing **innovation with accountability**. State accountability requires not only regulating fintech operations and shutting down illegal platforms but also designing policies that promote equitable access and consumer protection. Corporate responsibility demands that fintech providers safeguard data, educate users, and extend services to underserved regions. Together, these efforts can enhance public trust and ensure that fintech serves broader development goals.

Ultimately, fintech's contribution to economic recovery should not be measured solely by short-term access to liquidity but by its ability to foster long-term resilience, competitiveness, and inclusion among MSMEs. For policymakers, financial institutions, and civil society, the challenge lies in embedding fintech within a governance framework that aligns digital innovation with sustainable and equitable development.

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