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**Consumer Protection in The Digital Era: Analyzing Regulatory and Enforcement Gaps in Online Lending**

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**Abstract**
*This article examines the regulatory and enforcement gaps in consumer protection within online lending (fintech lending) practices in Indonesia. The study focuses on the lack of integration between consumer protection regulations, fintech supervision, and personal data governance, which has created legal uncertainty and increased consumers' vulnerability to abusive practices such as data misuse, excessive interest rates, and intimidating debt collection methods. Using a doctrinal legal research methodology, this study analyzes Indonesian regulatory frameworks and compares them with selected international approaches to assess the effectiveness of existing legal protections. The analysis demonstrates that the primary weakness does not lie in the absence of regulations, but rather in fragmented legal coordination, overlapping institutional authority, and weak enforcement mechanisms. Existing regulations have not effectively addressed illegal online lending operations, particularly in relation to cross-border digital platforms and the protection of consumers' personal data. The study also finds that limited digital literacy and inadequate supervisory capacity further weaken consumer protection in practice. This article contributes to the discussion on fintech regulation by emphasizing the need for integrated regulatory reform, stronger enforcement coordination, enhanced digital forensic capacity, and broader public legal education. These measures are essential to creating a more transparent, accountable, and sustainable online lending ecosystem in Indonesia.*
***Keywords:*** *Online Lending, Consumer Protection, Fintech Regulation, Data Privacy*

## A. INTRODUCTION

Rapid advancements in financial technology have fundamentally transformed traditional credit markets and reshaped the global financial system. Digital lending, as one of the most innovative fintech segments, has enabled faster, more accessible, and more flexible credit acquisition for individuals and micro-enterprises.[4] This app-based business model reduces various transaction costs, making the process of applying for and

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[4] Peter Gomber, Jascha-Alexander Koch, and Michael Siering, "Digital Finance and FinTech: Current Research and Future Research Directions," *Journal of Business Economics* 87, no. 5 (2017): 537–80.

disbursing funds more efficient. In addition, the integration of analytics technology allows service providers to assess risk in a more adaptive manner compared with conventional banking methods. This transformation is particularly relevant in developing countries, where conventional banking often fails to meet the financial needs of underserved populations. In Indonesia, the proliferation of online lending platforms (online loans or '*pinjol*') reflects both technological advancement and structural gaps in the national credit landscape. The increasing penetration of smartphones, the expansion of digital infrastructure, and the growing reliance on algorithm-based credit assessments have collectively accelerated the growth of online lending services across the country.[5]

Despite these advantages, online lending practices in Indonesia have triggered significant socio-legal challenges. Several empirical studies indicate that consumers often experience aggressive debt collection practices, disproportionate interest rates, and privacy violations, including unauthorized access to personal data stored on mobile devices.[6] This phenomenon is exacerbated by weak oversight of illegal online lending operators functioning outside the formal regulatory framework. Additionally, lax law enforcement often allows similar abuses to recur without an adequate deterrent effect on perpetrators. This condition highlights a structural gap between the development of financial technology and regulatory readiness in protecting consumers. In many cases, borrowers, especially those from low-income communities, lack sufficient digital literacy to fully understand the terms and conditions governing online loan applications. As a result, online loans have become associated with debt traps, coercive practices, and psychological pressure, raising substantial concerns about the adequacy of existing consumer protection mechanisms.[7]

From the perspective of legal governance, Indonesia has implemented various regulatory instruments to regulate digital lending or online loans. The regulatory framework includes Law No. 8 of 1999 on Consumer Protection, Law No. 27 of 2022 on Personal Data Protection, and Financial Services Authority (OJK) regulations governing fintech lending. In addition to OJK Regulation No. 77/POJK.01/2016 on Information Technology-Based Lending Services, the legal framework has been further strengthened through OJK Regulation No. 10/POJK.05/2022 concerning Information Technology-Based Joint Funding Services (LPBBTI), which provides more comprehensive provisions regarding licensing, supervision, risk mitigation, consumer protection, and governance of fintech lending platforms. Collectively, these instruments aim to ensure fairness, transparency, and legal certainty for consumers. However, the implementation of these regulations often faces operational obstacles in the field, particularly regarding coordination among supervisory agencies. In addition, uneven enforcement capacity at the central and regional levels results in inconsistencies in the application of sanctions and oversight mechanisms. Indeed, scholars contend that although these regulations exist, the law enforcement landscape remains

[5] Martina Mutheu Mulwa and Umar Yahya, "Review of Digital Lending Models for Financial Inclusion: Challenges, Opportunities, and Way Forward," *European Journal OfBusiness and Management Research* 10, no. 2 (2025): 184–91; Khaled Mahmud, Mahbubul Alam Joarder, and Kazi Muheymin-us-sakib, "Adoption Factors of FinTech: Evidence from an Emerging Economy Country-Wide Representative Sample," *International Journal of Financial Studies* 11, no. 9 (2023): 1–27.

[6] Oktaviana Ayu Sekar A. and Rina Arum Prastyanti, "Consumer Rights in the Fintech Lending Era Amid Legal Challenges of a Borderless World," *International Journal of Law and Society* 2, no. 3 (2025): 253–65.

[7] Grisvia Agustin, "The Rise of Financial Technology and Its Credit Risk in Indonesia," *IJAFAP: International Journal of Accounting & Finance in Asia Pasific* 6, no. 2 (2023): 98–109.

fragmented and poorly coordinated.[8] Unlicensed or illegal online lending operators, many of whom operate across borders, continue to exploit regulatory loopholes, making oversight difficult and increasing risks for consumers. The main challenge lies in the gap between regulatory norms and practical law enforcement.

. Although the OJK has launched initiatives to block illegal applications and strengthen supervision, law enforcement remains reactive and technologically constrained.[9] In addition, coordination among law enforcement agencies, fintech operators, and digital service providers remains suboptimal, resulting in slow responses to violations. The limited capacity for digital investigations makes tracking perpetrators across platforms and juridictions more complex. This situation is further exacerbated by rapid technological innovations, which often outpace the pace of regulatory adaptation. As a result, new legal gaps continue to emerge and are exploited by illegal online lending entities that are difficult to reach through traditional oversight mechanisms. The multidimensional nature of digital lending, encompassing financial regulation, cybersecurity, consumer rights, and data governance, requires a more integrated legal approach. Comparative studies show that jurisdictions with integrated regulatory systems and strict data protection standards can reduce consumer losses more effectively than those with fragmented oversight.[10]

Given this complexity, a comprehensive legal analysis is necessary to evaluate the effectiveness, coherence, and enforceability of the online lending regulatory framework in Indonesia. This study examines how existing legislation interacts, identifies regulatory gaps and structural weaknesses, and assesses Indonesia's readiness to address emerging challenges in the digital credit market. The analysis also evaluates the extent to which the current regulatory design can keep pace with the rapid evolution of technological innovation. In addition, this study explores the legal implications for industry practices and consumer behavior, including how regulatory uncertainty may affect public trust. Furthermore, the study evaluates the effectiveness of supervisory mechanisms in preventing abuse and providing adequate protection for vulnerable groups. The importance of regulatory calibration is also examined to ensure a balance between innovation and legal protection.

This study employs a doctrinal and comparative legal research methodology to examine regulatory and enforcement gaps in Indonesia’s online lending sector. The comparative jurisdictions were selected based on their advanced fintech regulatory frameworks and relevance to digital consumer protection, particularly Singapore, the European Union, and China. The study applies a comparative legal analysis by examining similarities and differences in regulatory approaches, supervisory mechanisms, and consumer protection standards across jurisdictions. Furthermore, the analysis uses statutory and conceptual interpretation methods by reviewing legislation, regulatory policies, and legal principles related to fintech governance, consumer protection, and personal data security. Through this approach, the study aims to contribute to the broader discourse on fintech regulation and consumer protection while providing policy recommendations to strengthen

[8] Jonathan McCarthy, “The Regulation of RegTech and SupTech in Finance: Ensuring Consistency in Principle and in Practice,” *JFRC: Journal of Financial Regulation and Compliance* 31, no. 2 (2025): 186–99.

[9] Michele Lanotte and Maurizio Trapanese, “Financial Intermediation and New Technology: Theoretical and Regulatory Implications of Digital Financial Markets,” *Bank of Italy Occasional Paper* 758 (2023): 1–44.

[10] Odunuga Atinuoluwadide Moromoke et al., “Navigating Regulatory Challenges in Digital Finance: A Strategic Approach,” *IRJETS: International Research Journal of Modernization in Engineering Technology and Science* 6, no. 10 (2024): 3574–94.

Indonesia's digital financial governance framework.

**B. Critical Evaluation of the Legal Framework Governing Online Lending in Indonesia**

The regulatory landscape for online lending in Indonesia currently encompasses several key legal instruments aimed at protecting consumers while comprehensively regulating fintech industry practices -. These instruments include:

1. LawNo.8/1999 on Consumer Protection
   Law Number 8 of 1999 on Consumer Protection serves as the main legal foundation affirming consumers' rights to clear information, protection against deceptive or harmful practices, and access to dispute resolution mechanisms. Although formulated before the digital era, its basic norms remain relevant for regulating fintech transactions, as they provide a legal basis for consumers to demand transparency and fairness. However, research by Suryono et al. shows that in the context of online lending, this protection remains relatively weak because many illegal platforms exploit legal loopholes and evade responsibility.[11] In addition, a study by Furqanita and Suwandono observed that the implementation of the UUPK has not been accompanied by adequate supervisory capacity, while consumer awareness, particularly regarding their rights to compensation for losses, remains low.[12]
2. OJK Regulation No. 77/POJK.01/2016 on Information Technology-Based Lending
   OJK Regulation No. 77/POJK.01/2016 establishes the legal framework and operational standards for online lending, requiring official licensing, transparency of costs and risks, periodic reporting, dispute resolution mechanisms, and risk mitigation–including liquidity management as well as compliance with Anti-Money Laundering (AML) and Countering Financing of Terrorism (CFT) requirements. However, the empirical literature indicates that the implementation of this regulation remains inconsistent. Research by Suryono et al. demonstrates that despite the existence of this regulation, many operators continue to operate without licenses, rendering consumer protection and law enforcement difficult.[13] In addition, lender risk management many platforms have not fully implemented the risk management and mitigation standards required by the OJK, which increases the risk of default and potential losses.[14]
3. LawNo.27/2022onPersonalDataProtection
   Law No. 27 of 2022 on Personal Data Protection strengthens consumer privacy protections by regulating the collection, use, and storage of digital data by service providers. This regulation imposes obligations on data controllers and

[11] Suryono, Budi, and Purwandari, "Heliyon Detection of Fintech P2P Lending Issues in Indonesia."

[12] Jihan Ayuzein Furqanita and Agus Suwandono, "Pertanggungjawaban Penyelenggara Fintech Peer to Peer Lending Terhadap Kerugian Konsumen Berdasarkan POJK Penyelenggaraan Layanan Konsumen Dan Masyarakat Di Sektor Jasa Keuangan," *Acta Diurnal: Jurnal Ilmu Hukum Kenotariatan Fakultas Hukum Unpad* 4, no. 2 (2021): 279–94.

[13] Suryono, Budi, and Purwandari, "Heliyon Detection of Fintech P2P Lending Issues in Indonesia."

[14] Jerry Shalmont, Grace Iskandar Darmawan, and Dora Dominica, "Manajemen Dan Mitigasi Risiko Lender Peer-To-Peer Lending Pasca Diundangkan POJK 10/2022," *Jurnal Hukum & Pembangunan* 53, no. 1 (2023): 85–112.

processors to obtain explicit consent from data subjects and grants individuals the right to access, correct, or delete their personal data. However, implementation in the fintech sector faces challenges due to the limited capacity of supervisory institutions and insufficient public awareness of personal data rights.[15] In addition, although the PDP Law has established criminal and administrative penalties for violations, its effectiveness in enforcement remains uncertain due to the absence of a robust, independent supervisory body.[16]

4. Ministerial and Police Regulations on Cybercrime and Digital Economy Governance
   The Regulation of the Minister of Communication and Informatics establishes requirements for the registration and verification of electronic system operators, while also providing a basis for blocking services that misuse user data. Additionally, the police have the authority to take action against digital crime perpetrators through the cybercrime unit, which handles cases of phishing, illegal access, and fraud involving digital transactions. Wiwoho et al.'s research indicates that the combination of public sector regulations and cooperation between financial supervisory institutions and law enforcement is essential to prevent the misuse of fintech as a means of financial crime.[17] In addition, the corporate burden in preventing digital crimes is increasing because criminal regulations now place greater emphasis on corporate responsibility for digital economic crimes.[18]

Although the scope of these regulations is considered comprehensive, their implementation still faces challenges. Existing laws are fragmented, making inter-agency coordination essential for effective oversight. Effective law enforcement relies heavily on OJK supervision, provider compliance, and consumer awareness–particularly consumers' ability to understand their rights and report illegal practices. Therefore, regulatory harmonization and improved digital literacy among consumers are critical to strengthening protection within Indonesia's online lending ecosystem.

## C. Ongoing Consumer Risks in Online Loans

Online loans offer convenience and quick access to credit for consumers, but behind these benefits lie various risks that continue to threaten consumer protection. These risks are not merely financial but extend to privacy, contract fairness, and consumers' psychological safety. Understanding these types of risks is essential for designing more effective regulations and oversight mechanisms.

1. Misuse of Personal Data
   The misuse of personal data in the online lending sector has emerged as a serious concern. Many platforms request excessive access to contacts, photos, messages, and other sensitive data – practices that are often exploited to intimidate borrowers. Data leaks from illegal lenders remain

[15] Kukuh Dwi Kurniawan et al., "Criminal Sanctions and Personal Data Protection in Indonesia," *Lex Publica* 11, no. 27 (2024): 221–47.
[16] Moody Rizqy Syailendra, Gunardi Lie, and Amad Sudiro, "Personal Data Protection Law in Indonesia: Challenges and Opportunities," *Indonesia Law Review* 14, no. 2 (2024): 56–72.
[17] Jamal Wiwoho, Dona Budi Kharisma, and Dwi Tjahja K. Wardhono, "Financial Crime in Digital Payments," *Journal of Central Banking Law and Institutions* 1, no. 1 (2022): 47–70.
[18] Alexander Anggono, Tarjo, and Moh. Riskiyadi, "Cybercrime and Cybersecurity at Fintech: A Systematic Literature Review," *JMO: Jurnal Manajemen Dan Organisasi* 12, no. 3 (2021): 239–51.

widespread, primarily due to weak privacy controls and inadequate oversight. The study by Suryono et al. shows that illegal P2P lending platforms often collect and disseminate borrower data without explicit consent, thereby exacerbating the risk of privacy violations.[19] In addition, Rahmawati et al.'s study indicates that some operators use malware or other unauthorized techniques to access user data, which is then exploited for debt collection purposes.[20] Therefore, protecting consumer data in online lending requires strict regulations and robust oversight to prevent violations.

2. Unfair Contract Terms and Excessive Interest Rates
   Some online loan agreements contain unfair terms, including high interest rates and hidden fees that burden borrowers. Annas and Ansori's research shows that digital loan contracts tend to lack transparency, with many standard clauses drafted unilaterally by providers, thereby violating the principle of contractual balance and harming consumers. Furthermore, the interest rates on some P2P lending platforms are prohibitively high (e.g., 0.8% per day), risking the exploitation of borrowers with low financial literacy and limited access to legal recourse. Therefore, consumer protection must be strengthened through regulations that limit excessive interest rates and mandate contract transparency. Such regulations are essential for preventing predatory practices and maintaining fairness in the digital lending ecosystem.
3. Aggressive and Abusive Debt Collection Practices
   Some online lending platforms employ aggressive and abusive debt collection practices, with reports of harassment, threats, and the disclosure of borrowers' personal information to third parties. These reports indicate that debt collectors sometimes contact borrowers' emergency contacts, such as family members or friends, or publicly expose debts to pressure borrowers to repay. This pattern clearly violates consumer protection norms and may give rise to criminal liability, especially when personal data is shared without consent. A study by Hatamia et al. reveals that the OJK and law enforcement face significant difficulties in prosecuting illegal lenders and collectors operating outside domestic jurisdictions due to limited cross-border coordination and inadequate regulatory frameworks.[21] As a result, borrowers often experience psychological distress and reputational damage.[22]

Overall, these risks are interconnected: data misuse facilitates aggressive debt collection practices, while unfair contracts and high interest rates deepen consumers' financial vulnerability. This situation demonstrates that the sectoral regulations alone are insufficient to ensure consumer protection in the online lending ecosystem; integrated oversight mechanisms, enhanced digital literacy, and the enforcement of contract fairness principles are necessary to mitigate these risks.

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[19] Suryono, Budi, and Purwandari, "Heliyon Detection of Fintech P2P Lending Issues in Indonesia."

[20] Elvia Rahmawati, Miftakhul Huda, and Ian Firstian Aldhi, "Personal Data Misuse in Fintech Lending Providers from Perspective Indonesian Cyberlaw," *ADJ: Airlangga Development Journal* 8, no. 1 (2024): 8–20.

[21] Raka Fauzan Hatamia, Elisatris Gultomb, and Anita Afriana, "Penegakan Hukum Terhadap Perusahaan Financial Technology P2P Lending Dalam Kegiatan Penagihan Pinjaman Uang Yang Melanggar Asas Perlindungan Konsumen Dikaitkan Dengan Hukum Perlindungan Konsumen," *Acta Diurnal: Jurnal Ilmu Hukum Kenotariatan* 2, no. 2 (2019): 156–71.

[22] Yoel Samuel and Ariawan Gunadi, "Establishing Consumer Security within the Peer-To-Peer Lending Ecosystem in Indonesia: A Juridical Analysis," *Awang Long Law Review* 7, no. 2 (2025): 359–67.

## D. Regulatory Weaknesses and Institutional Challenges

Although online lending regulations in Indonesia have developed significantly, various structural and institutional weaknesses continue to hinder effective consumer protection. The existing legal framework formally recognizes consumer rights, financial supervision, and personal data protection; however, doctrinal analysis shows that these legal instruments operate in a fragmented manner and lack effective institutional integration. As a result, risks such as misuse of personal data, unfair digital contracts, excessive interest rates, and aggressive debt collection practices remain inadequately addressed. The problem therefore lies not only in weak enforcement, but also in inconsistencies within the regulatory structure itself.

1. OJK's Limited Law Enforcement Capacity

   The Financial Services Authority (OJK) has undertaken various measures to combat illegal online lending platforms, including blocking applications and imposing administrative sanctions. Nevertheless, the persistence of illegal fintech operators demonstrates that the current enforcement model remains largely reactive rather than preventive. Suryono et al. note that thousands of illegal fintech platforms have emerged since 2018 despite repeated enforcement actions, indicating that supervisory mechanisms alone are insufficient to control rapidly evolving digital platforms.

   This situation reflects both an enforcement gap and a structural legal limitation. Under OJK regulations, the OJK possesses supervisory authority over licensed fintech providers; however, enforcement against illegal platforms often requires coordination with other institutions, such as the Ministry of Communication and Digital Affairs for website blocking and law enforcement agencies for criminal investigation. The absence of a unified enforcement mechanism creates institutional dependency and delays legal action against cross-platform or cross-border digital lenders. Consequently, the fragmented allocation of authority weakens accountability and reduces the effectiveness of consumer protection measures.

2. Fragmentation of Legal Norms

   The fragmentation of legal norms constitutes one of the most significant weaknesses in Indonesia's fintech regulatory framework. Consumer protection law, fintech regulations, and personal data protection law operate under separate legal regimes with different supervisory objectives and enforcement procedures. This fragmentation creates overlaps and conflicts of norms that contribute to legal uncertainty.

   For example, Law No. 8 of 1999 on Consumer Protection guarantees consumers' rights to information, fairness, and legal remedies, while the Personal Data Protection Law regulates consent and confidentiality of digital data. At the same time, OJK Regulation No. 10/POJK.05/2022 focuses primarily on licensing, governance, and operational supervision of fintech providers. However, these regulations do not clearly determine which institution holds primary authority in cases involving both consumer rights violations and misuse of personal data by online lending platforms.

   Some argue that such overlapping norms create regulatory loopholes that may be exploited by illegal fintech operators. Noor et al. similarly observes that although fintech regulations have evolved, harmonization between OJK regulations, consumer protection legislation, and data protection law remains weak. From a doctrinal perspective, this indicates a conflict-of-norm problem in which legal provisions pursue related objectives but lack integrated enforcement standards. As a result, enforcement agencies frequently face uncertainty regarding jurisdiction, sanctions, and investigative authority, particularly in cases involving digital platforms operating across multiple legal domains.

3. Low Consumer Digital Literacy

The effectiveness of consumer protection in online lending is further weakened by low levels of digital and financial literacy among consumers. Rahayu et al. demonstrate that many borrowers do not fully understand the legal implications of digital contracts, data-sharing mechanisms, or lending risks within fintech platforms. Similarly, Arini's research shows that consumers often provide access to personal data without understanding how such data may later be used for profiling, debt collection, or third-party distribution.

The literature consistently indicates that low digital literacy increases consumers' vulnerability to exploitative practices; however, these studies also reveal a broader doctrinal issue concerning the principle of informed consent in digital transactions. Although existing laws formally require transparency and user consent, the legal framework does not establish sufficiently detailed standards regarding readability of digital contracts, algorithmic transparency, or limitations on automated profiling. Consequently, consumers may formally "consent" to contractual terms without substantively understanding their legal consequences.

This demonstrates that the problem is not solely educational, but also normative in nature. Existing regulations place substantial responsibility on consumers to understand digital agreements while failing to impose stronger legal obligations on fintech providers to ensure meaningful transparency and fairness. Therefore, improving consumer literacy must be accompanied by clearer legal standards governing digital consent, contract transparency, and accountability in online lending practices.

## E. Comparative Analysis and Transferability of Online Lending Regulations in Other Jurisdictions

Lessons learned from other jurisdictions, particularly Singapore, provide valuable insights for strengthening online lending regulations in Indonesia. In Singapore, the Monetary Authority of Singapore (MAS) maintains a rigorous licensing system for digital financial services while also implementing a regulatory sandbox. The regulator routinely reviews the operational practices of fintech firms to ensure compliance and identify consumer risks at an early stage. Furthermore, MAS actively encourages dialogue between regulatory authorities and industry stakeholders to align innovation with consumer protection. Within this sandbox, fintech companies can test new products in a controlled environment before fully launching them to market, under direct regulatory oversight.[23] This policy allows innovation to thrive without compromising consumer protection. Moreover, Singapore's enforcement regime is robust, with platforms that violate regulations facing immediate sanctions, thereby creating a

[23] Ahmad Alaassar, Anne-laure Mention, and Tor Helge Aas, "Technovation Exploring a New Incubation Model for FinTechs: Regulatory Sandboxes," *Technovation* 103 (2021): 102237.

deterrent effect against illegal operators.[24] This approach has proven effective in balancing support for financial technology innovation with the imperative to protect user rights, thus providing a relevant model for Indonesia in formulating policy reforms.

In the European Union, the General Data Protection Regulation (GDPR) establishes robust consumer data protection rights, including the right to access, erasure (the "right to be forgotten"), and restriction of data processing. This regulation not only governs the collection, storage, and use of personal data but also imposes severe penalties up to 4% of a company's global annual turnover for data breaches or misuse of information.[25] The GDPR requires companies to regularly review and update internal policies related to data management. Furthermore, the regulation mandates the implementation of security audits and transparent reporting of incidents to both authorities and consumers. The GDPR has proven effective in reducing privacy breaches in the technology and financial services sectors, requiring fintech companies and digital service providers to implement "privacy by design" and "privacy by default" principles to comply with transparency and accountability standards.[26] This stringent approach has created a significant deterrent effect and enhanced consumer confidence, while compelling industry actors to strengthen their data security strategies and responses to privacy incidents.

In South Korea, the Financial Consumer Protection Act (FCPA) of 2020 established a unified legal framework that strengthens financial consumer protection. This law consolidates provisions previously scattered across various statutes (banking, capital markets, insurance) into a single comprehensive regulation.[27] The FCPA articulates six principles of business conduct, including the “suitability rule” and the “duty to explain,” to which financial product providers must adhere, and grants consumers the right to cancel contracts that are unfair or unlawfully executed.[28] Furthermore, this law strengthens oversight mechanisms through a centralized authority: the Financial Supervisory Service (FSS), an executive body under the Financial Services Commission (FSC). The FSS possesses the authority to intervene in product offerings, establish internal controls for consumer protection standards, and mediate financial disputes through a dedicated committee. This approach enables more efficient inter-agency coordination, thereby strengthening regulation and law enforcement against illegal lending practices and harmful contract terms. This framework could serve as a model for Indonesia in strengthening its fintech regulatory framework and consumer protection.

These examples demonstrate that Indonesia stands to benefit substantially from harmonizing its regulatory framework, integrating oversight mechanisms, and strengthening law enforcement. such harmonization will reduce fragmentation across institutions, allowing the fintech sector to develop more safely without opportunities for regulatory arbitrage. Furthermore, implementing international best practices can help align domestic fintech operations with. Additionally, stricter law enforcement against illegal fintech operators and regulatory violators will enhance public trust and maintain

[24] János Kálmán, “The Role of Regulatory Sandboxes in FinTech Innovation: A Comparative Case Study of the UK , Singapore , and Hungary,” *Fintech* 4, no. 26 (2025): 1–16.

[25] Josephine Wolff and Nicole Atallah, “Early GDPR Penalties: Analysis of Implementation and Fines Through May 2020,” *Jounal of Information Policy* 11 (2021): 63–103.

[26] Salah Albenjasim et al., “FinTech Cybersecurity Challenges and Regulations: Bahrain Case Study,” *Journal of Computer Information Systems* 64, no. 6 (2024): 835–51.

[27] Dong Won Ko, “Policy Framework for Financial Consumer Protection in Korea: Focusing on the Financial Consumer Protection Act of 2020,” *The International Review of Financial Consumers* 2, no. 2 (2021): 1–10.

[28] Man Cho and Soojin Park, “Financial Consumer Protection in the Era of Digital Transformation: A Critical Survey of Literature and Policy Practices,” *KDI School of Pub Policy & Management Paper*, no. DP21-04 (2021): 1–53.

financial system stability. These steps are essential for the healthy growth of the fintech ecosystem while mitigating systemic risk. In developing countries such as Indonesia, appropriate regulation plays a pivotal role in managing credit, operational, and liquidity risks in fintech lending.[29] Moreover, research by Vijayagopal et al. shows that a combination of robust regulation and oversight constitutes a critical foundation for maintaining a stable and sustainable fintech ecosystem.[30]

Adopting international best practices not only improves consumer protection but also fosters the development of a healthier, more transparent, and sustainable fintech ecosystem. By implementing global standards such as clear licensing policies, effective complaint mechanisms, and robust data protection, Indonesia can build public trust and minimize risks of exploitation. Regulations aligned with international practices enable the fintech sector to develop inclusively without compromising financial system stability. Furthermore, best practices from other jurisdiction promote responsible innovation. This observation aligns with Vijayagopal et al., who demonstrate that balanced fintech regulation can enhance financial inclusion while maintaining stability and consumer protection.[31] Hasan et al.'s research similarly indicates that a combination of international regulatory standards and oversight can bolster sustainability within fintech enterprises while improving market fairness.[32] Thus, Indonesia has the potential to build a fintech ecosystem that is not only advanced and innovative, but also safe and fair for all stakeholders.

## F. Legally Grounded Policy Recommendations

Establishing an integrated regulatory architecture that consolidates consumer protection, data protection, and fintech laws is a strategic step towards creating a safe, transparent, and sustainable fintech ecosystem in Indonesia. This approach emphasizes not only legal compliance but also consumer protection and systemic risk mitigation. Concrete measures include the following:

1. Enhancing OJK's Digital Forensics and Cross-border Investigation Capacity.

The OJK must strengthen its digital forensics and cross-border investigation capabilities through adequate human resources and technology, enabling it to monitor digital transactions, analyze big data, and collaborate with international regulators and law enforcement agencies to combat transnational financial crimes. Research by Casino et al. shows that cross-border criminal investigations face significant challenges due to divergent legal frameworks across countries, necessitating adaptive and efficient collaboration protocols.[33] Furthermore, digital forensics serves as a strategic pillar that enables the methodical identification and tracking of electronic evidence a capacity essential for combating technology-based financial crimes.[34] By

[29] Mohammad Fahmi Arkanuddin, Ferdinand D. Saragih, and Bernardus Yuliarto Nugroho, "The Key Role of the Financial Regulation in FinTech Ecosystem: A Model Validation," *Studies of Applied Economics* 39, no. 12 (2021): 1–16.

[30] Preethi Vijayagopal, Bhawana Jain, and Shyam Ayinippully Viswanathan, "Regulations and Fintech: A Comparative Study of the Developed and Developing Countries," *Journal of Risk and Financial Management* 17, no. 324 (2024): 1–23.

[31] Ibid.

[32] Morshadul Hasan et al., "FinTech and Sustainable Development : A Systematic Thematic Analysis Using Human- and Machine-Generated Processing," *International Review of Financial Analysis* 95 (2024): 103473.

[33] Fran Casino et al., "SoK: Cross-Border Criminal Investigations and Digital Evidence," *Journal of Cybersecurity* 8, no. 1 (2022): 1–18.

[34] Ahmad Syaufi et al., "Employing Forensic Techniques in Proving and Prosecuting Cross-Border Cyber-Financial Crimes," *International Journal of Cyber Criminology* 17, no. 1 (2023): 85–101.

implementing these measures, the OJK will be better positioned to address the threat of unlicensed fintech operators and maintain the integrity of the financial system.

2. Mandating Algorithmic Transparency to Address Digital Credit Scoring Bias

Requiring algorithmic transparency in digital credit scoring is essential for preventing bias and discrimination. Through the deployment of explainable models (such as explainable AI), consumers can understand the factors underlying credit scoring, thereby ensuring decisions become fairer, and enhancing public trust in fintech. A study by Kozodoi et al. demonstrates that without transparency, credit algorithms can create systemic inequities affecting certain groups.[35] Additionally, periodic algorithmic audits and the use of fairness-aware machine learning techniques can reduce discriminatory impacts while maintaining predictive performance.[36] Thus, algorithmic transparency obligations not only protect consumers but also strengthen a fair, accountable, and sustainable fintech ecosystem.

3. Implement Stricter Sanctions for Illegal Fintech Operations and Abusive Debt Collection Practices

Stricter sanctions against unlicensed fintech operators and abusive debt collection practices are essential to protect consumers. Fines, license revocations, and criminal prosecution can create a deterrent effect and prevent the proliferation of predatory practices. A study demonstrates that current regulations are insufficiently stringent to effectively deter illegal fintech operations, necessitating strengthened enforcement through criminal penalties and victim restitution obligations.[37] Furthermore, Subagiyo et al.'s findings indicate that a combination of criminal sanctions and consumer protection regulations is effective in curbing predatory lending and abusive debt collection practices in the fintech sector. By implementing a rigorous and transparent penalty framework, the OJK and law enforcement agencies can more effectively prevent consumer harm and maintain the stability of the fintech ecosystem.

4. Enhancing Public Digital Literacy to Empower Consumers

Digital literacy programs are vital for smarter and more protected fintech consumers. The government and the OJK must provide education on fintech risks, consumer rights, and the safe use of digital services to enable the public to make informed financial decisions and avoid predatory practices. Research by Widyastuti et al. shows that digital financial literacy significantly enhances financial inclusion and helps individuals better manage risk.[38] Furthermore, a review by Gumilar et al. concludes that digital literacy programs are most effective when integrated with consumer protection regulations and fintech oversight.[39] By empowering consumers through education, the OJK can strengthen public trust and build a

[35] Nikita Kozodoi, Johannes Jacob, and Stefan Lessmann, "Fairness in Credit Scoring: Assessment, Implementation and Profit Implications," *European Journal of Operational Research* 297, no. 3 (2022): 1083–94.

[36] Garcia, Garcia, and Rigobon, "Algorithmic Discrimination in the Credit Domain: What Do We Know About It?"

[37] Ahmad Ihsan Amri and Nynda Fatmawati, "Criminal Liability of Online Money Lenders," *Ius Positum: Journal of Law Theory and Law Enforcement* 2, no. 1 (2023): 122–31.

[38] Umi Widyastuti et al., "The Nexus of Digital Financial Inclusion, Digital Financial Literacy and Demographic Factors: Lesson from Indonesia Demographic Factors: Lesson from Indonesia," *Cogent Business & Management* 11, no. 1 (2024): 2322778.

[39] Desy Wulan Ayuning Gumilar, Khresna Bayu Sangka, and Salman Alfarisy, "Digital Financial Literacy and Digital Financial Inclusion in the Era of Digital Disruption: Systematic Literature Review," *FJMR: Formosa Journal of Multidisciplinary Research* 3, no. 5 (2024): 1563–76.

safe, fair, and sustainable fintech ecosystem.

5. Adopt a Centralized Dispute Resolution Portal for Fintech-Related Complaints

   A centralized dispute portal facilitates rapid and transparent complaint filing for consumers, enhances provider accountability, and enables the OJK to monitor complaint trends and p respond proactively to emerging risks. Internationally, integrated Alternative Dispute Resolution (ADR) mechanisms in the financial services sector have proven effective in strengthening consumer protection.[40] Research by Vijayagopal et al. indicates that a centralized, technology-based dispute resolution institution can improve consumer access, particularly for cross-platform fintech disputes.[41] By adopting a centralized portal, Indonesia will not only accelerate dispute resolution but also strengthen public trust in a fair and responsible fintech ecosystem.

Strengthening the fintech ecosystem in Indonesia requires an integrated regulatory architecture that consolidates consumer protection, data protection, and fintech oversight. This strategy encompasses several key measures. First, enhancing the OJK's digital forensics and cross-border investigation capabilities will enable effective detection and prosecution of technology-based financial crimes. Second, mandating algorithmic transparency in digital credit assessments can prevent bias and discrimination, thereby enhancing fairness and public trust in fintech. Third, imposing strict sanctions against unlicensed fintech operators and abusive debt collection practices will create a deterrent effect and protect consumers from harm. Fourth, public digital literacy programs will empower citizens to be more discerning in using digital financial services, while enhancing financial inclusion. Finally, adopting a centralized dispute resolution portal will expedite the redress of consumer complaints and enhance the accountability of fintech providers. Overall, the combination of regulatory strengthening, technological oversight, consumer protection, and digital education can foster a safe, transparent, fair, and sustainable fintech ecosystem in Indonesia

## F. CONCLUSION

This study demonstrates that the primary challenge in regulating online lending in Indonesia does not stem from the absence of legal instruments, but from the fragmentation of regulatory norms, overlapping institutional authority, and weak enforcement mechanisms. Although Indonesia has established regulations concerning consumer protection, fintech supervision, and personal data governance, these legal frameworks remain insufficiently integrated to address the complexities of digital lending practices effectively. As a result, consumers continue to face legal uncertainty, risks of personal data misuse, unfair contractual practices, and inadequate protection against illegal online lending operations.

From a doctrinal perspective, this article contributes by identifying the structural weaknesses within Indonesia’s regulatory framework, particularly the lack of harmonization between OJK regulations, consumer protection law, and personal

[40] Lastuti Abubakar and Tri Handayani, “Integrated Alternative Dispute Resolution Institutions in the Financial Services Sector: Dispute Resolution Efforts in Consumer Protection Framework,” *Yustisia Jurnal Hukum* 10, no. 1 (2021): 32–47.

[41] Vijayagopal, Jain, and Viswanathan, “Regulations and Fintech: A Comparative Study of the Developed and Developing Countries.”

data protection law. The analysis further demonstrates that existing legal provisions have not adequately regulated emerging issues such as algorithmic decision-making, digital profiling, and cross-platform enforcement responsibilities. These findings indicate that the problem is not merely empirical in nature, but also rooted in deficiencies within the legal design itself.

Empirically, the study finds that limited institutional capacity, weak inter-agency coordination, and low levels of digital literacy continue to hinder effective consumer protection in practice. Normatively, therefore, the article recommends the development of a more integrated regulatory framework, clearer institutional authority, stronger enforcement mechanisms, and improved standards for digital transparency and accountability. Such reforms are necessary to strengthen legal certainty and ensure fairer and more sustainable governance of online lending in Indonesia.

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