



Utilization of Technological Innovation in the Transfer of Receivables through Cessie for the Resolution of Non-Performing Loans

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Abstract: This study explores the potential use of technological innovation in the transfer of receivables through *cessie* as a solution to the rising issue of non-performing loans in Indonesia's financial sector. The research employs a normative juridical method, without quantitative data, relying entirely on legal literature and doctrinal analysis. Using statutory and case approaches, it analyzes the legal framework and case examples relevant to digital receivables transfer. The study specifically aims to examine (1) how fintech and blockchain contribute to the efficiency and transparency of *cessie* transactions, (2) how Indonesian regulations adapt to digital *cessie* mechanisms, and (3) the legal obstacles in implementing these technologies. The findings reveal that fintech enables faster, more accessible receivables trading, while blockchain provides secure, verifiable transaction records. However, implementation faces significant regulatory challenges, such as the absence of explicit legal recognition for electronic contracts and a lack of standardized digital procedures for debtor notification, as required by Article 613 of the Indonesian Civil Code. The study recommends regulatory reforms to legally recognize smart contracts and formalize digital notification procedures. Improving digital infrastructure and ensuring legal certainty will be essential to support the broader integration of digital *cessie* practices into Indonesia's financial legal system.

Keywords: technological innovation, transfer of receivables, bad debts, legal regulation.

1. Introduction

Non-performing loans (NPLs) have long posed a major challenge to the stability and performance of financial institutions in Indonesia. When borrowers fail to fulfill their repayment obligations, it leads to liquidity disruptions, increased operational risk, and reduced capacity to issue new credit, which in turn threatens the health of the financial system as a whole (Suyanto, 2020). Banks and other financial institutions often face lengthy, costly, and complex recovery processes in managing defaulted debts. As a result, effective and legally sound mechanisms for addressing NPLs are increasingly vital. As of the latest report by the Financial Services Authority (OJK) in early 2024, Indonesia's NPL ratio stood at approximately 2.5%, signaling persistent pressure on credit quality in the banking sector.

One well-established legal mechanism to address NPLs is the transfer of receivables through *cessie*, as regulated by Article 613 of the Indonesian Civil Code. This process allows creditors to assign their receivables to a third party, thereby improving cash flow and reducing risk exposure (Rangkuti, 2019). Conventional *cessie* procedures involve written contracts, notarization, and physical debtor notifications, which are often time-consuming, while digital *cessie* offers faster, automated processing with electronic contracts and blockchain-based verification. Traditionally, however, *cessie* transactions require physical documentation, manual verification, and formal notification to debtors—procedures that are time-consuming and prone to administrative errors. These limitations reduce the efficiency of *cessie* as a practical solution for resolving bad debts, especially in an era when financial transactions are becoming more complex and digitized.

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Received: Jun 22, 2025;

Revised: Jul 28 2025;

Accepted: Aug 01, 2025;

Published: Aug 30, 2025;



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Recent advances in financial technology (fintech) and blockchain provide new opportunities for transforming the *cessie* process. Fintech platforms facilitate digital assignment of receivables with improved speed, scalability, and ease of access for both creditors and investors. Meanwhile, blockchain offers enhanced transparency, data integrity, and security through its decentralized and immutable ledger system (Lukita & Faturahman, 2022; Putri & Tarina, 2024). With these technologies, receivables can be assigned and verified electronically, significantly reducing operational bottlenecks and mitigating fraud. Furthermore, digital *cessie* systems enable the involvement of broader market participants, such as institutional investors and specialized receivables management companies (Kusumaatmadja, 2016). However, the estimated value or volume of receivables transferred through digital *cessie* systems in Indonesia is currently undocumented in publicly available sources, indicating a data gap that warrants further research.

Despite these potential advantages, the application of digital technology in receivables transfer remains constrained by several legal and institutional barriers. Current laws and regulations do not explicitly recognize the validity of electronic contracts or smart contracts as legally binding in the context of *cessie*. Moreover, the obligation to notify debtors—an essential requirement under Article 613 of the Civil Code—is often incompatible with automated digital notification systems (Harahap, 2018; Sari, 2021). Other challenges include insufficient legal certainty regarding blockchain-based transactions, lack of infrastructure among smaller financial institutions, and inadequate protection of personal data involved in digital financial transactions (Firmansyah, 2024; Widyastuti & Setiawan, 2021). This research primarily focuses on the role of fintech platforms in enabling digital *cessie* transactions and the legal implications for both banking institutions and non-bank financial players, especially those operating peer-to-peer (P2P) lending platforms.

This study aims to assess how technological innovation, particularly fintech and blockchain, can be utilized in the transfer of receivables through *cessie* to resolve non-performing loans more effectively. It also examines the legal challenges associated with the digitalization of *cessie* and proposes regulatory improvements to support its safe and lawful implementation. By doing so, this research contributes to the ongoing discourse on adapting Indonesia's legal framework to the demands of digital financial services. A forward-looking regulatory environment will be essential in ensuring that digital *cessie* systems are both efficient and legally sound, thereby enhancing trust and resilience in Indonesia's financial sector.

2. Materials and Methods

This study employs a normative juridical method, which focuses on analyzing legal norms, doctrines, and regulations through the examination of legal literature. This method, commonly referred to as doctrinal or library research, is used to describe, evaluate, and explain the legal aspects surrounding the utilization of technological innovation in the transfer of receivables through *cessie* as a mechanism for resolving non-performing loans (Marzuki, 2017). The normative juridical method is appropriate for this research, as the primary objective is to study and assess the suitability and adaptability of existing legal frameworks in accommodating digital transformations in financial services.

The legal approaches applied in this study include both the statutory approach and the case approach. The statutory approach involves an in-depth examination of relevant written laws and regulations in Indonesia, particularly those governing financial services, receivables assignment, and electronic transactions. The selection of regulations such as POJK No. 77/POJK.01/2016 and Government Regulation No. 71 of 2019 is based on their direct relation to technology-based receivables transfer: POJK 77/2016 regulates fintech lending services, which often involve digital receivables assignment, while PP 71/2019 provides the legal basis for electronic transactions and system operations. Other key legal instruments analyzed include Article 613 of the Indonesian Civil Code, Law No.

21 of 2011 on the Financial Services Authority (OJK), Law No. 19 of 2016 on the ITE Law, and Bank Indonesia Regulation No. 19/12/PBI/2017 on the Payment System.

In parallel, the case approach was used to examine legal disputes and regulatory interventions related to digital cessie and fintech operations, particularly cases monitored or handled by the Financial Services Authority (OJK) (Simorangkir, 2019). Notable cases selected include the TaniFund default incident and the legal dispute involving iGrow, both chosen due to their relevance to fintech-based receivables practices and their legal escalation to the OJK and Bareskrim. These cases represent real-world challenges in applying digital mechanisms for receivables transfer, particularly in relation to regulatory compliance and consumer protection.

The legal materials used in this study are categorized into three types: primary, secondary, and tertiary legal sources. Primary legal materials consist of binding laws and regulations—both codified and customary—that directly govern the legal subject matter. Secondary legal materials include scholarly works such as textbooks, journal articles, policy papers, and academic commentaries that provide interpretations and analysis relevant to the legal issues discussed. Tertiary legal materials include legal dictionaries and encyclopedias that support terminological clarity and contextual understanding (Firmansyah, 2024).

To ensure the validity and reliability of secondary and tertiary legal sources, materials were selected based on their origin from accredited academic institutions, government publications, or reputable legal databases. Cross-referencing was conducted to confirm consistency in interpretation, and preference was given to peer-reviewed journals or publications by recognized legal scholars.

The legal data were collected through library research by consulting a variety of printed and digital sources. Primary materials were accessed through official government and regulatory institution websites, while secondary and tertiary materials were gathered from legal databases, academic libraries, and online repositories. The selection process involved identifying keywords such as “digital cessie,” “fintech lending,” “smart contracts,” and “receivables law,” and filtering materials based on relevance to the three formulated research objectives.

The analysis technique applied in this study is systematic interpretation, which examines legal provisions in relation to one another, emphasizing internal coherence and the alignment of legal norms with broader principles and societal realities (Firmansyah, 2024). This method involved interpreting Article 613 KUHPperdata in conjunction with modern regulatory instruments and fintech operational realities, in order to assess compatibility between traditional contract law and emerging digital practices. This interpretive method allows for the contextual application of existing laws to new technological developments, facilitating a comprehensive understanding of legal compatibility and areas requiring reform.

3. Results and Discussion

3.1. Technological Innovations Such as Fintech and Blockchain in Receivables Transfer Through Cessie

Technological innovations, particularly those involving financial technology (fintech) and blockchain, possess significant potential to transform the mechanism of receivables transfer through cessie and offer solutions to the issue of non-performing loans in Indonesia. Fintech has made financial services more accessible in an efficient, fast, and cost-effective manner, circumventing traditional systems that typically require direct interaction and manual documentation. Fintech platforms connected to financial institutions enable the receivables transfer process to be carried out with greater transparency and speed. In this regard, technology allows creditors intending to sell their receivables to utilize digital platforms to offer those receivables to third parties who may purchase or invest in them. Processes that previously required significant time can now be performed automatically through fintech-based systems (Bandaso et al., 2022).

On the other hand, blockchain technology offers a higher level of security for receivables transfer transactions. Operating in a decentralized system, blockchain enables every transaction to be recorded in interconnected, immutable blocks. This structure fosters transparency in receivables transfer and ensures that the transactional data is legitimate and tamper-proof. In this context, blockchain enhances the trust between creditors and receivable buyers, as both parties can access and verify the data recorded on the blockchain. This is especially important in reducing the potential for fraud or misconduct in receivables transactions involving multiple parties (Sutrisno, 2020).

In Indonesia, the digital implementation of cessie through technology has been illustrated by several relevant legal and practical cases. For example, TaniFund, a fintech peer-to-peer lending platform in the agricultural sector, reported a 90-day default rate (TWP) of 63.93%, indicating that many borrowers failed to repay their loans. As a result, TaniFund could not fulfill its obligations to lenders, and the Financial Services Authority (OJK) referred the case to the Criminal Investigation Department (Bareskrim) for further legal action. Similarly, iGrow, another agricultural fintech P2P lending platform, was sued by 40 lenders through legal proceedings. The lawsuit, filed on June 5, 2023, named iGrow, the Chairman of the OJK Board of Commissioners, the Indonesian Joint Funding Fintech Association (AFPI), and the Minister of Communication and Information as defendants. OJK responded by acknowledging the legitimacy of the legal process and stated its willingness to comply with applicable legal procedures (Simorangkir, 2019).

These cases highlight the complexity and legal challenges faced by fintech platforms in conducting digital receivables transfers. It is essential for fintech operators to comply with existing regulations while ensuring transparency and the protection of consumer rights in every transaction (Rachmawati, 2022). In Indonesia, the use of fintech and blockchain in receivables transfer is governed by various regulations intended to ensure transparency, security, and legal compliance. Law No. 21 of 2011 concerning the Financial Services Authority (OJK) provides the legal foundation for regulating financial services, including fintech. OJK has the authority to oversee and regulate fintech operations, particularly platforms that match creditors with third parties interested in purchasing non-performing receivables. This regulatory oversight is crucial to ensure that fintech platforms engaged in receivables transfers adhere to sound financial principles and safeguard the interests of both creditors and debtors.

Additionally, regulations regarding peer-to-peer (P2P) lending are particularly relevant in the context of receivables transfer. OJK Regulation No. 77/POJK.01/2016 on Information Technology-Based Lending Services regulates the operation of P2P lending platforms, enabling fintech providers to facilitate direct lending between creditors and debtors through digital technology. One common business model in P2P lending involves third parties or investors purchasing receivables, which can serve as a solution for resolving non-performing loans (Setiawan, 2021).

In this model, P2P lending functions as a digital marketplace connecting creditors who hold receivables with interested third-party buyers. Through these platforms, creditors who face difficulties in collecting receivables can sell or transfer them to parties willing to purchase them at a mutually agreed price. Fintech platforms, therefore, play a role in reducing non-performing loans and accelerating the liquidation of previously uncollectible assets. However, the use of fintech in receivables transfer is not without challenges. Existing regulations require P2P lending providers to register and obtain licenses from OJK before commencing operations. Additionally, fintech operators are obliged to protect user data and adhere to electronic system security standards stipulated in Law No. 11 of 2008 on Electronic Information and Transactions (ITE). This requirement is vital to prevent data misuse or fraud in receivables transactions conducted via digital platforms (Ariani, 2021).

Furthermore, regulations require fintech platforms to provide transparent information regarding the risks associated with receivables transfer transactions. Creditors and prospective buyers must be informed of the quality of the receivables being transferred and the associated risks and opportunities. Through these regulations,

OJK aims to protect all parties involved and ensure that the receivables transfer process is conducted professionally and in compliance with applicable legal standards (Budianto, 2020).

Blockchain also holds great potential in improving transparency and security in receivables transfer transactions, as blockchain records are immutable and verifiable. Although no specific regulation currently governs the use of blockchain in receivables transfer in Indonesia, general legal provisions such as Law No. 11 of 2008 and its amendment under Law No. 19 of 2016 provide a basis for recognizing electronic transactions, including those conducted using blockchain (Nugroho, 2020). Despite the advantages offered by fintech and blockchain, their implementation in Indonesia continues to face several challenges. One of the main obstacles is the lack of a comprehensive regulatory framework that fully supports the use of these technologies in receivables transfer. While OJK continues to monitor fintech developments and provide regulatory guidance, the application of blockchain in receivables transfer still lacks detailed technical and legal regulation. Existing rules are focused more on electronic information transactions rather than addressing the full spectrum of blockchain-based financial operations (Hutagalung, 2020).

Moreover, digital infrastructure remains a significant challenge. Many financial institutions—especially smaller ones—still rely on conventional systems for managing receivables and credit. To overcome this, the government and related agencies must enhance digital accessibility and readiness across the financial sector. Government Regulation No. 82 of 2012 on the Implementation of Electronic Systems and Transactions mandates that electronic system operators must be certified and meet data security standards—standards that fintech platforms involved in receivables transfer must comply with (Simorangkir, 2019).

In the future, the role of the government and regulators will be essential in ensuring that fintech- and blockchain-based receivables transfers are conducted safely and transparently. One proposed step is the issuance of specific regulations governing the use of blockchain in financial transactions, particularly in receivables transfer. These regulations should clearly define how blockchain can be used to record and verify receivables transactions. The government must also encourage collaboration among financial institutions, fintech providers, and regulators to develop system interoperability standards and strengthen data protection protocols. The role of OJK in supervising and providing guidance remains critical to ensuring that fintech platforms and blockchain applications comply with applicable laws and regulations in Indonesia.

With the proper regulatory framework, these technologies can aid financial institutions in managing non-performing loans, accelerating financial recovery, and fostering a more efficient and transparent receivables market. The integration of fintech and blockchain in receivables transfer offers Indonesia a substantial opportunity to enhance financial system efficiency and transparency and to build a more secure and trustworthy business environment. However, this transformation requires clear regulatory support, robust digital infrastructure, and coordinated collaboration among all stakeholders involved.

3.2. Legal Regulatory Adaptation in Indonesia to Support the Assignment of Receivables Through Cessie in the Digital Era

The current legal framework in Indonesia, particularly regarding financial technology (fintech) and peer-to-peer (P2P) lending, provides an essential legal foundation for facilitating the digital assignment of receivables. Law No. 21 of 2011 concerning the Financial Services Authority (Otoritas Jasa Keuangan/OJK) grants OJK the authority to regulate and supervise various digital financial services, including those related to receivables transactions. A more specific regulation is OJK Regulation No. 77/POJK.01/2016 on Information Technology-Based Lending Services, which governs fintech-based lending operations. In the context of receivables transfer, P2P lending platforms serve a vital function by connecting creditors wishing to assign their receivables with third parties interested in purchasing them. However, to ensure the

prudence and legal protection of all parties involved in such transactions, existing regulations must be refined and strengthened—particularly in terms of information transparency, reporting obligations, and user data protection (Kusnadi, 2020).

Blockchain technology is increasingly seen as a solution to enhance efficiency and transparency across sectors, including the financial sector. Although its use in receivables assignments is not yet fully regulated in Indonesia, blockchain holds substantial potential to reduce fraud and enhance the credibility of transactions. Transactions recorded on blockchain are immutable and tamper-proof, thereby fostering trust among stakeholders. To accommodate the use of blockchain in receivables assignments, the existing regulatory framework must adapt to technological demands. A viable approach includes introducing clearer legal recognition and authentication mechanisms for blockchain-based transactions and providing specific guidelines for data security and the legal validity of digitally recorded contracts. Such measures would create a stronger legal basis for fintech platforms wishing to integrate blockchain technology in the assignment of receivables in a secure and efficient manner.

One of the main legal challenges in digital receivables assignment lies in consumer protection, affecting both the assignor (creditor) and the assignee (investor or buyer). While OJK regulations do address certain consumer protection responsibilities of fintech platforms, additional regulation may be needed to ensure that transactions comply with principles of transparency, accountability, and data protection. For instance, there must be regulatory provisions requiring adequate due diligence and creditworthiness assessments of receivables prior to transfer, enabling the buyer to make informed decisions. Moreover, to prevent misuse of information or fraudulent transactions, regulators must require fintech providers to implement robust cybersecurity measures and comply with stringent reporting standards (Mariani, 2021).

The rapid evolution of digital technologies compels Indonesia to establish legal frameworks that are not only regulatory but also adaptable to technological innovation. Hence, laws governing digital receivables assignment must be flexible and responsive, enabling innovation while maintaining legal certainty. Regulations should provide clear guidelines on the rights and obligations of parties involved, while remaining broad enough to accommodate future developments (Wahyudi, 2022).

In the Indonesian context, the implementation of technologies such as fintech and blockchain in the digital assignment of receivables through *cessie* necessitates regulatory adjustment to ensure compliance with the constitutional principles of the 1945 Constitution of the Republic of Indonesia. Article 33 of the Constitution establishes that the national economy should be organized as a collective effort based on the principle of kinship, meaning that economic policies—including receivables assignment—must deliver equitable benefits to all stakeholders. Therefore, within the framework of economic digitalization, regulations governing fintech and blockchain technologies must ensure that transactions are carried out fairly, efficiently, and accountably.

Additionally, Article 28G of the Constitution guarantees the right of individuals to privacy and personal data protection, which is crucial in digital receivables assignment involving customer and creditor data. Regulations must therefore incorporate strict data protection standards to prevent the misuse of personal information. This aligns with the constitutional mandate to uphold human rights in the digital age. Furthermore, Article 28I ensures the right to truthful and non-misleading information, which becomes especially relevant in receivables transactions. Blockchain technology—with its transparency and immutable data—reinforces this right by enabling all parties to openly verify transaction details and maintain transactional integrity (Siahaan, 2019).

Technology, in this regard, becomes a key instrument in achieving fairness and openness in receivables assignment processes. Strategically, the Indonesian government—through OJK and other regulatory institutions—must continuously update and realign the regulatory framework with technological advancements. Specifically, OJK must issue comprehensive technical guidelines on procedures and operational mechanisms for fintech platforms engaged in receivables transactions to safeguard

digital financial system stability while ensuring public protection. Well-crafted regulations will not only defend consumer rights but also create a supportive ecosystem for the growth of Indonesia's digital economy, in line with the social justice mandate of Article 33 of the Constitution.

By considering these constitutional values, legal regulations governing digital receivables assignments can support a financial system that is more efficient, secure, and inclusive. Strengthening the legal structure should take into account the rights and obligations of all parties—creditors, debtors, and third-party assignees—ensuring that no stakeholder is unfairly disadvantaged under the prevailing laws (Fitria, 2020).

One strategic recommendation is to develop principle-based regulations that provide room for market participants to innovate within a fair and transparent legal framework. These regulations should include provisions on identity verification, risk management, and transaction monitoring to ensure that receivables transfers are conducted lawfully and securely. The Indonesian government—particularly through OJK and the Ministry of Finance—plays a central role in drafting and supervising policies that promote the responsible use of fintech and blockchain technologies in receivables assignment. Moving forward, stronger collaboration between regulatory authorities and the fintech industry is essential to create comprehensive and fair legal instruments that promote innovation while ensuring legal protection. Effective supervision of fintech providers and receivables transfer activities is equally vital to minimize systemic risks, fraud, and violations of consumer rights.

3.3. Legal Challenges in the Application of Digital Technology to Receivables Transfer

The application of digital technology to receivables transfer, particularly involving platforms such as financial technology (fintech) and blockchain, presents several legal challenges, especially in light of the provisions in Article 613 of the Indonesian Civil Code (KUHPerdata), which governs the assignment of receivables (*cessie*). This article stipulates that a valid assignment must be carried out through a written agreement between the assignor (cedent) and the assignee (cessionary), and requires notification to the debtor. These provisions are designed to ensure that debtors are not disadvantaged by changes in the party entitled to collect the receivable. However, with the advancement of digital technologies, the legal issues surrounding receivables assignment through fintech and blockchain platforms have become increasingly complex (Putra, 2022).

The first issue concerns the written form requirement outlined in Article 613 of the Civil Code. While the article mandates that the assignment agreement be documented in writing, fintech and blockchain platforms typically facilitate such transactions through electronic contracts, which may be technically interpreted as written instruments in a digital context. Nonetheless, legal ambiguity arises when such electronic contracts fail to meet the conventional standards required under civil law, which generally emphasize physical documentation. This may present evidentiary problems in court proceedings, where the legal sufficiency of electronic contracts in demonstrating mutual intent and agreement between the cedent and cessionary may be disputed.

The second issue relates to the notification requirement to the debtor. According to Article 613, a proper and explicit notification must be sent to the debtor to legitimize the transfer of collection rights. In digital platforms, such notifications are often automated and integrated into platform systems. However, legal complications may arise if the debtor does not receive or properly understand the notification. This could lead to disputes regarding the legitimacy of the claim or allow the debtor to disregard the notification due to technical errors or insufficient information. In blockchain-based transfers, such notifications may lack the clarity or procedural formality required by Indonesian legal standards (Sari, 2021).

The third issue involves the legal validity and clarity of electronic contracts used in receivables assignment. Blockchain-based platforms may utilize smart contracts—self-executing digital agreements that automate the transaction process. While these offer security and transparency, under Indonesian law, the legal recognition of smart contracts or electronic agreements as valid written instruments remains unclear.

Courts may struggle to accept such contracts as legally binding evidence, particularly when traditional elements of contract formation and proof are absent.

To address these challenges, regulatory reforms are necessary to explicitly accommodate receivables assignment through fintech and blockchain technologies. Such reforms should recognize electronic contracts and smart contracts as legally valid written agreements, provided they meet essential legal principles such as mutual consent, verifiability in court, and proper debtor notification. Additionally, regulatory frameworks must ensure that notification mechanisms are transparent and accessible, so that debtors are not misled or disadvantaged by digital processes.

Moreover, the requirement for debtor notification as stipulated in Article 613 must be carefully reconciled with digital practices. Fintech platforms that facilitate receivables sales to third parties must ensure that such notifications are delivered clearly and lawfully. The automated and anonymous nature of some blockchain transactions may hinder effective and legally sufficient notifications, creating legal uncertainty—especially when debtors claim to have been unaware of the assignment. To resolve this, regulations governing digital assignments must be updated to ensure compliance with Article 613. One approach is to mandate that fintech platforms provide verifiable, legally recognized notifications to debtors.

Furthermore, electronic contracts used in receivables assignments must be structured in a way that ensures compliance with Indonesian contract law, particularly regarding the formal recognition of written agreements. Legal adjustments to accommodate digital methods are essential to ensure legal clarity and protection for all parties involved in digitally executed receivables transfers.

3.4. Comparative Analysis: Conventional vs. Digital Cessie Practices

Technological innovations, especially in the form of fintech and blockchain, are reshaping the receivables transfer process in Indonesia. While these technologies offer efficiency and security, their implementation often clashes with existing legal norms—especially Article 613 of the Indonesian Civil Code. The comparison below illustrates key differences and regulatory gaps between conventional and digital cessie:

Table 1. Comparison of Conventional and Digital Assignment Practices Based on Legal Aspects

| Legal Aspect | Conventional Cessie | Digital Cessie via Fintech/Blockchain | Regulatory Gap |
|--------------------------|---|---|---|
| Form of agreement | Physical written document | Electronic/smart contract | No explicit legal recognition of smart contracts |
| Debtor notification | Delivered manually or via notarial service | Automated system or platform notification | Uncertainty over legal sufficiency of digital notice |
| Proof in court | Signed paper contract | Encrypted blockchain transaction or digital log | Judicial ambiguity on admissibility of digital evidence |
| Risk of manipulation | Moderate (human error, forgery possible) | Low (immutable blockchain records) | — |
| Intermediary requirement | Often requires legal or notarial intermediaries | Automated or peer-to-peer platform | — |

These regulatory inconsistencies demonstrate the urgent need to revise legal frameworks, particularly in acknowledging smart contracts and automated notification mechanisms as legally valid under Indonesian law.

3.5. Comparison with Previous Studies

Compared to prior research, this study emphasizes the specific legal implications of Article 613 of the Civil Code when applied to digital cessie. For instance, Rachmawati (2022) primarily focused on the technical potential of fintech in addressing bad debt but did not deeply analyze the civil law implications. Setiawan (2021) recognized blockchain’s role in increasing transparency but overlooked the necessity of debtor notification as a legal requirement. This study contributes uniquely by pinpointing the

regulatory friction between legacy civil law (Pasal 613 KUHPerdata) and evolving financial technology practices, particularly around contract validity and debtor protection.

Furthermore, Mariani (2021) emphasized the urgency of regulating consumer data protection in digital lending, a concern this research confirms and expands by linking it directly to constitutional guarantees under Article 28G of the 1945 Constitution. Unlike previous studies that often discuss fintech or blockchain in isolation, this research integrates both technologies into the cessie context and analyzes their cumulative legal consequences.

3.6. Visualization of Legal Challenges and Policy Solutions

To summarize the key regulatory issues and proposed solutions, the following table outlines critical legal gaps and corresponding reform strategies:

Table 2. Legal Challenges in Digital Assignments and Recommended Regulatory Solutions

| Identified Challenge | Description | Suggested Legal Solution |
|---|---|---|
| Lack of legal status for smart contracts | Uncertainty about electronic contracts' enforceability | Amend Civil Code or issue derivative OJK/BI regulations recognizing smart contracts |
| Ambiguous digital debtor notification procedures | No standard format or recognition for automated notifications | Develop platform-based notification standards legally deemed sufficient under Article 613 |
| Absence of blockchain-specific regulation | Blockchain use not directly governed in financial transfer laws | Issue technical regulations or guidelines on blockchain use in receivables transfer |
| Limited infrastructure among smaller institutions | Fintech platforms not evenly adopted, especially outside urban areas | Incentivize adoption through national digital financial inclusion strategies |
| Data privacy concerns in receivables transfer | Weak protection of debtor and lender information on digital platforms | Harmonize with Personal Data Protection Law and mandate cybersecurity compliance |

4. Conclusions

The utilization of technological innovation in the assignment of receivables through cessie for resolving non-performing loans demonstrates significant potential in enhancing efficiency and transparency within this process. Fintech platforms facilitate the interaction between creditors and third-party buyers of receivables, thereby accelerating the resolution of bad debts. Furthermore, blockchain technology offers a high level of security and transparency in transaction recording, ensuring that receivables transfers are accountable and traceable. However, the implementation of these technologies is not without legal challenges. In particular, limitations in the current regulatory framework—especially regarding the legal recognition of electronic contracts and the requirement for debtor notification under Article 613 of the Indonesian Civil Code—pose significant barriers to their broader adoption. These legal provisions require a written agreement and formal notification to the debtor, which can be difficult to fulfill in fully digital environments. This study is limited by its normative juridical approach, which relies solely on legal literature and statutory analysis without empirical testing or stakeholder interviews. Future research could explore case studies or conduct comparative analysis with jurisdictions that have successfully implemented digital cessie mechanisms. Practically, the findings of this research imply that fintech players must ensure legal compliance when designing digital receivables transfer systems, including secure notification protocols and valid digital contracts. Banks and financial institutions are encouraged to partner with licensed fintech platforms to enhance debt recovery, while regulators such as OJK must consider issuing detailed guidelines on the legal validity of digital cessie. Comprehensive and adaptive regulation will be critical in

aligning Indonesia's legal infrastructure with the rapid advancement of financial technology.

Supplementary Materials: The following supporting information can be downloaded at: <https://legal.isha.or.id/index.php/legal/index>, Figure S1: title; Table S1: title; Video S1: title.

Author Contributions: Conceptualization, D.S. and D.T.; methodology, D.S.; validation, D.S., D.T., and E.S.; formal analysis, D.S.; investigation, D.S.; resources, D.T.; data curation, D.S.; writing—original draft preparation, D.S.; writing—review and editing, D.T. and E.S.; visualization, D.S.; supervision, E.S.; project administration, E.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: No new data were created or analyzed in this study. Data sharing is not applicable to this article.

Acknowledgments: The authors would like to express their sincere gratitude to the Faculty of Law, Universitas Internasional Batam, for providing the necessary academic resources and administrative support during the writing of this article.

Conflicts of Interest: The authors declare no conflict of interest.

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