

**JURIDICAL ANALYSIS OF ELECTRONIC AGREEMENT
VALIDITY IN ONLINE LOANS UNDER ELECTRONIC
INFORMATION AND TRANSACTIONS****Alex Candra¹⁾ Anto Kustanto²⁾ Takwim Azami³⁾**¹⁾Fakultas Hukum, Universitas Wahid Hasyim, Semarang, Indonesia, E-mail: alexcandra.unwahas@gmail.com²⁾Fakultas Hukum, Universitas Wahid Hasyim, Semarang, Indonesia, E-mail: akustanto.unwahas@gmail.com³⁾Fakultas Hukum, Universitas Wahid Hasyim, Semarang, Indonesia, E-mail: tazami.unwahas@gmail.com

Abstract. This study examines the validity of electronic consent in online loan agreements according to Indonesian laws and regulations, specifically Law Number 11 of 2008 concerning Electronic Information and Transactions and its amendments in Law Number 19 of 2016. Electronic consent, such as the "click agree" mechanism in online loan applications, is legally recognized if it is made consciously by the user, through a reliable and secure electronic system, and in accordance with the principles of prudence and honesty as stipulated in Article 1320 of the Civil Code and Article 15 of the Electronic Information and Transactions Law. However, implementation in the field still faces obstacles, including low legal and digital literacy among the public. In cases of default, agreements remain subject to general civil law, with electronic evidence valid under Article 5 of the ITE Law. This research uses a normative-juridical approach through a literature review, combining legislative, conceptual, and case studies to analyze the legal framework, implementation, constraints, and implications of electronic consent. The results emphasize the importance of regulatory harmonization, electronic signature certification, and digital legal education to create legal certainty and optimal consumer protection.

Keywords: Electronic Consent; Fintech; ITE Law; Legal Protection; Online Loans.

1. Introduction

The development of information technology has significantly changed the pattern of economic interaction in society, including in the financial services sector. Innovations such as online loans or fintech lending have developed rapidly in Indonesia, enabling people to obtain financing quickly without the need for face-to-face meetings (Sulistyandari et al., 2024). In practice, agreements between lenders and borrowers are conducted electronically, where borrowers simply agree to the terms and conditions through the application with a simple action such as "clicking agree." This phenomenon

is supported by the rapid growth of fintech peer-to-peer (P2P) lending companies, which reached 142 registered companies in 2024, with loan absorption of up to 3 trillion rupiah to meet the needs of the community, particularly Micro, Small, And Medium Enterprises (MSMEs) (Sulistyandari et al., 2024; Rusadi et al., 2020).

However, behind this convenience, complex legal issues arise, particularly regarding the validity of electronic agreements, which are often deemed to not fulfill the elements of an agreement as stipulated in Article 1320 of the Civil Code (*Kitab Undang Undang Hukum Perdata*/KUHPerdata). This article requires free agreement, the ability of the parties, a specific object, and a lawful cause (Kharisma et al., 2025). The fundamental question that arises is whether the act of "clicking agree" in an electronic system can be considered valid as a form of agreement in an agreement, and what legal protections are available for the parties in the event of a breach of contract (Darma & Jadnya, 2019; Khovin et al., 2022). Cases such as the V-loan case in 2019 demonstrate how the misuse of borrowers' personal data can lead to moral and financial losses, including dismissal from employment or the dissemination of content that damages reputations (Darma & Jadnya, 2019; Agustini et al., 2025).

To address this issue, Law Number 11 of 2008 concerning Electronic Information and Transactions (*Undang Undang Informasi dan Transaksi Elektronik*/UU ITE), along with its amendments through Law Number 19 of 2016, provides a legal basis for the validity of electronic signatures and documents. The ITE Law states that electronic documents have the same legal force as conventional documents, provided they meet principles such as legal certainty, benefit, and good faith (Cahyadi, 2020; Suwadi et al., 2023). Furthermore, Financial Services Authority Regulation (*Peraturan Otoritas Jasa Keuangan*/POJK) Number 77/POJK.01/2016 concerning Information Technology-Based Money Lending Services also regulates aspects of consumer protection, although implementation obstacles remain, such as a lack of public legal literacy, technical problems in identity verification, and ineffective dispute resolution mechanisms (Priskarini et al., 2019; Admiral & Pauck, 2023). These constraints are increasingly relevant in the post-pandemic digital era, where electronic transactions have increased sharply, but regulations often lag behind technological developments (Soetoto 2020; Billiam & Abubakar, 2022; Nazran et al., 2024).

Although the topic of fintech lending and legal protection has been widely discussed, most previous studies have focused more on aspects of personal data protection and consumer privacy in fintech, such as data misuse by P2P lending providers (Priskarini et al., 2019; Billiam & Abubakar, 2022; Subagyo et al., 2022; Admiral & Pauck, 2023; Yulia et al., 2024; Nazran et al., 2024). For example, Priskarini et al. (2019) highlight the role of the Financial Services Authority (*Otoritas Jasa Keuangan*/OJK) in protecting debtor privacy, while Admiral and Pauck (2023) analyze data security challenges in online lending services, including data leaks and unethical billing practices. Similarly, Billiam and Abubakar (2022) discuss the urgency of standardizing open APIs for data protection, but do not delve into the validity of electronic consent as the basis for agreements.

Other studies emphasize business ethics and general fintech regulations, such as the risks of fraud and interest rate cartels (Darma & Jadnya, 2019; Rusadi et al., 2020; Tjandra, 2020; Harja, 2021; Annas & Ansori, 2021). Harja (2021) analyzes the resolution of problem loans without highlighting the electronic aspect, while Tjandra (2020) discusses the lack of interest rate determination norms, which could potentially violate

competition law. Annas and Ansori (2021) highlight the issue of interest rate determination by the Indonesian Financial Services Association, which poses a potential risk of cartel practices. Meanwhile, Rusadi et al. (2020) view fintech as an alternative financing option for MSMEs; however, they do not address the implications of default in relation to the Information and Electronic Transactions Law (ITE Law). Darma and Jadnya (2019) examine the V-loan case related to data misuse, but do not specifically address the validity of "clicking agree" as an agreement.

International legal comparisons have also been discussed, such as electronic contracts between Indonesia and the US under UNCITRAL, but less exploration of the domestic implications for default in P2P lending (Suwadi et al., 2023; Wilbert et al., 2024). Suwadi et al. (2023) compare electronic contract regulations, while Arifin (2023) emphasizes consumer protection from false advertising, and Wilbert et al. (2024) discuss the impact of the ASEAN Agreement on E-Commerce on digital business contracts. Furthermore, Islamic perspectives on fintech ethics have been reviewed, with Supriyadi (2022) highlighting the Islamic spirit of business ethics, Ahyani et al. (2025) comparing Islamic jurisprudence with the Criminal Code regarding digital fraud, and Sitaresmi et al. (2025) integrate Islamic principles with positive law for cloud-based notaries. However, these studies do not deeply analyze the validity of electronic consent under the ITE Law and the legal implications of default, including regulatory strengthening mechanisms to address low literacy and weak enforcement (Sasmita et al., 2022; Khovin et al., 2022; Haykal, 2025; Utomo, 2025; Suraji & Prabowo, 2025; Syarifah & Lisnawati, 2025; Putri, Nhung, and Putri, 2025).

This gap underscores the need for more focused and in-depth research, particularly in the post-pandemic context, where digital transactions have become increasingly dominant and play a critical role in shaping financial practices and regulatory challenges. (Cahyadi, 2020; Khusniyah & Widayati, 2021; Sukarja, 2022; Suparno and Sukmariningsih, 2023; Alkatiri et al., 2023; Nazran et al., 2024; Fairuza et al., 2024; Mulyani, Sholeh, 2024; Lumbanraja et al., 2024; Sanusi et al., 2025). Furthermore, significant research gaps remain, particularly in the context of the validity of electronic agreements and the implications of default in Indonesia. Therefore, this study aims to examine the validity of electronic agreements in online loan agreements under the ITE Law, analyze their implementation and the obstacles encountered, and examine the legal implications in the event of default, as well as possible legal strengthening efforts. This study is expected to contribute by holistically analyzing the validity of electronic agreements, implementation obstacles, and legal strengthening efforts to optimally protect the parties.

Based on the background of the problems described above, the rapid development of fintech lending practices has raised fundamental legal questions regarding the validity of electronic agreements, particularly consent given through electronic systems, as well as the adequacy of legal protection for the parties involved. The gap between technological advancement and the readiness of the legal framework necessitates a deeper legal analysis to ensure certainty, fairness, and protection in electronic loan agreements. Therefore, this research formulates several legal issues that need to be examined further.

RQ1: What is the validity of electronic consent in agreements under the ITE Law?

RQ2: What are the implementation and obstacles to the application of the validity of electronic agreements in fintech peer-to-peer lending practices in Indonesia?

RQ3: What are the legal implications of default in electronic-based online loan agreements?

2. Research Methods

This research employs a normative-juridical approach, emphasizing the study of positive legal norms, legal principles, and legal theories related to the validity of electronic agreements in online loan agreements. The normative-juridical method was chosen because this research focuses on the analysis of legal rules, legal principles, and positive legal theories related to the validity of electronic agreements, thus requiring an approach to written norms and legal literature. This research employs a statute approach to examine the provisions of Law Number 11 of 2008 concerning Electronic Information and Transactions (*Informasi dan Transaksi Elektronik/ITE*), Law Number 19 of 2016, and Government Regulation Number 71 of 2019. Furthermore, a conceptual approach is used to understand the legal concepts regarding agreements, electronic signatures, and the validity of agreements.

The research data was obtained through library research, covering various legal sources to provide a comprehensive analysis. Primary data included laws and regulations relevant to the research, such as Law Number 11 of 2008 concerning Electronic Information and Transactions, Law Number 19 of 2016 as an amendment to the ITE Law, and Government Regulation Number 71 of 2019, which served as the primary reference for understanding the validity of electronic agreements. Furthermore, court decisions related to electronic agreements and breach of contract were analyzed to determine the practical application of the law. Secondary data consists of legal literature, textbooks, scientific journals, articles, and previous research discussing the legal aspects of electronic contracts, electronic signatures, fintech, and consumer protection, thus helping to provide a contextual and theoretical understanding of the issues studied. Meanwhile, tertiary data is used to support a broader understanding of legal terms, definitions, and concepts, for example through legal encyclopedias, legal dictionaries, and official government publications. The analysis is conducted descriptively and analytically, namely describing applicable legal norms and principles, then evaluating their application in the context of electronic agreements. This research can produce valid normative conclusions that can be used as the basis for legal recommendations.

3. Results and Discussion

3.1. Validity of Electronic Consent in Agreements According to the ITE Law

In today's digital era, electronic agreements have become an integral part of various economic transactions, including online loans and fintech lending. The validity of electronic agreements is a crucial issue because they combine traditional contract law principles with virtual elements of information technology that do not always involve physical interaction between the parties. In the context of contract law, the principle of *pacta sunt servanda* asserts that every valid agreement must be complied with by the parties, and a contract is only considered valid if it meets the four essential elements stipulated in Article 1320 of the Civil Code: agreement of the parties, capacity to enter

into an agreement, a specific object, and a lawful cause (Kharisma et al., 2025; Hardyansah et al., 2025).

Contract theory emphasizes that contracts are the result of the free will (voluntary consent) of the parties (Subarkah & Gravionika, 2024). Therefore, consent must be given consciously, without any element of coercion, fraud, or error affecting the will. In the context of electronic agreements, consent is often expressed through digital mechanisms, such as "clicking agree" or electronic signatures (Banjarnahor, 2023). Although the form differs from conventional contracts, the principle of free will remains the benchmark for the validity of a contract (Shidarta, 2023; Subarkah & Gravionika, 2024). Electronic agreements made in good faith and meeting security and data integrity standards are considered equivalent to conventional signatures in terms of evidence in court, according to the provisions of Law Number 11 of 2008 concerning Electronic Information and Transactions and its amendments in Law Number 19 of 2016.

Furthermore, contract theory also emphasizes the importance of clarity regarding the object and purpose of the agreement. In online lending, the object of the contract is financial rights and obligations, while the purpose of the agreement must be legal and not contrary to law or the public interest. This combination of traditional contract principles with electronic mechanisms creates a legal basis that allows digital transactions to be recognized legally, as long as the elements of free will, capacity of the parties, a specific object, and a lawful cause are met. This approach bridges the gap between classical civil law and modern fintech lending practices, while providing legal certainty for consumers and service providers.

However, in the context of cyber law, this theory has evolved to accommodate electronic transactions. Cyber law in Indonesia, influenced by international models such as the UNCITRAL Model Law on Electronic Commerce, emphasizes the principle of functional equivalence, which states that electronic documents have the same legal force as conventional documents as long as they meet security and reliability standards (Patrikios, 2006; Castellani, 2023; Suwadi et al., 2023). In Indonesia, this legal framework is realized through Law Number 11 of 2008 concerning Electronic Information and Transactions (*Undang Undang Informasi dan Transaksi Elektronik/UU ITE*), which has been amended by Law Number 19 of 2016. The ITE Law provides legal recognition for electronic documents and signatures, ensuring that digital transactions are no less valid than physical transactions.

Article 11 paragraph (1) of the ITE Law explicitly states that electronic signatures have legal force and valid legal consequences, as long as they meet the following requirements: a) the data used to create the electronic signature relates only to the signatory; b) the data used to create the electronic signature is solely within the control of the signatory; c) any changes to the electronic signature are readily identifiable; and d) any changes to the related electronic information are readily identifiable. These requirements aim to maintain the integrity and authenticity of the agreement, preventing data manipulation, which frequently occurs in cyber transactions (Cahyadi, 2020). In the context of online loan agreements, approval given through the "click agree" or "accept terms" mechanism can be considered valid as long as it meets the elements of agreement as stipulated in Article 1320 of the Civil Code. Electronic approval is a form of voluntary consent consciously given by the user, supported by a digital identity verified by the system, such as through a One-Time Password (OTP) or biometrics.

Furthermore, Article 5 paragraph (1) of the ITE Law states that electronic information and/or electronic documents and/or printouts thereof constitute valid legal evidence. This strengthens the position of electronic consent as a valid element in agreements, in line with the principle of non-discrimination against electronic forms (Haykal, 2025). Furthermore, Article 15 of the ITE Law regulates the principles of security, integrity, and reliability of electronic systems, which requires fintech providers to use technology that prevents unauthorized data changes. In fintech lending practices, the Financial Services Authority (*Otoritas Jasa Keuangan*/OJK), through OJK Regulation Number 77/POJK.01/2016 concerning Information Technology-Based Money Lending Services, requires transparent identity verification and consent, including providing complete information on the terms and conditions before "clicking agree" (Sulistyandari et al., 2024).

In the context of online loans, approval through the "click agree" or "accept terms" mechanism is considered valid as long as it fulfills the elements of agreement in Article 1320 of the Civil Code, supported by a verified digital identity, such as a OTP or biometrics (Cahyadi, 2020). Article 5 paragraph (1) of the ITE Law further emphasizes that electronic information, electronic documents, and printouts are valid legal evidence, strengthening the position of electronic approval as a valid element in an agreement (Khusniyah & Widayati, 2021). The Financial Services Authority, through OJK Regulation Number 77/POJK.01/2016 concerning Information Technology-Based Money Lending Services, requires identity verification and the provision of information on terms and conditions before approval is made, ensuring compliance with the principle of good faith in Article 3 of the ITE Law (Sulistyandari et al., 2024).

Modern contract law theories, such as the doctrine of unconscionability, are also relevant in the context of electronic agreements (Canino, 2016; Jerker & Svantesson, 2011; Prasad & Mishra, 2022). The doctrine of unconscionability is relevant for assessing the fairness of electronic contracts from both procedural and substantive aspects, ensuring that borrowers understand their contractual obligations (Kharisma et al., 2025). This doctrine assesses contract fairness from both procedural (formation process) and substantive (clause content) aspects. In electronic contracts, the imbalance of power between fintech providers and borrowers often gives rise to issues of procedural unfairness, where borrowers do not fully understand the clauses (Kharisma et al., 2025). Therefore, the ITE Law requires the principle of good faith in Article 3, which requires parties to act honestly and fairly. In addition to the ITE Law, related regulations such as Law Number 27 of 2022 concerning Personal Data Protection (*Perlindungan Data Pribadi*/PDP Law) also support the validity of consent by requiring informed and specific consent, preventing misuse of personal data during the consent process (Admiral & Pauck, 2023).

From a global cyber law perspective, Indonesia has adopted elements of UNCITRAL, where electronic consent is recognized as long as it fulfills the functions of identification and integrity (Suwadi et al., 2023). The ASEAN Agreement on E-Commerce also strengthens the harmonization of digital contracts, supporting the validity of electronic consent in Indonesia (Wilbert et al., 2024). From an Islamic perspective, the principles of amanah (trustworthiness) and maslahah (benefit) support the validity of electronic consent, as implemented in Sharia-compliant fintech through the PrivyID digital signature, which complies with the DSN-MUI Fatwa (Cahyadi, 2020; Supriyadi, 2022).

Roscoe Pound's approach to social engineering asserts that the ITE Law and the PDP Law serve as instruments for establishing a just digital society (Suraji & Prabowo, 2025).

The validity of electronic consent in fintech lending is also supported by the use of technology such as standard APIs for data integration, as stipulated in OJK regulations (Billiam & Abubakar, 2022). In digital notary practice, similar principles apply to the validation of electronic documents (Nazran et al., 2024). The ITE Law, along with its derivative regulations, ensures that electronic agreements have the same legal force as conventional contracts, in line with the principles of *pacta sunt servanda* and functional equivalence (Utomo, 2025; Sholeh, 2024).

However, challenges arise when electronic systems are insecure, such as in the case of data leaks in fintech, which can invalidate agreements due to violations of security principles (Priskarini et al., 2019). Therefore, providers must implement electronic certification from institutions such as the Electronic Certification Center (*Balai Sertifikasi Elektronik/BSrE*) to ensure reliability. Thus, the ITE Law has legitimized electronic agreements, as long as the implementation system meets the principles of security, integrity, and reliability as stipulated in Article 15 of the ITE Law. This aligns with the theory of contract law that emphasizes free agreement and the theory of cyber law that guarantees digital equivalence (Utomo, 2025). However, implementation still requires strengthening through digital literacy education for users.

3.2. Implementation and Constraints in Handling Electronic Approvals for Online Loans

The implementation of electronic agreements for online loans in Indonesia is carried out through fintech platforms supervised by the Financial Services Authority (*Otoritas Jasa Keuangan/OJK*) based on POJK Number 10/POJK.05/2022 concerning Information Technology-Based Joint Funding Services (Sulistyandari et al., 2024). This process involves verifying the borrower's identity using electronic data such as an e-KTP (e-KTP) or a selfie, followed by displaying the agreed terms and conditions digitally (Cahyadi, 2020). Fintech providers implement a "click-agree" system integrated with electronic signatures, where approval is recorded as valid legal evidence under Article 11 of the ITE Law (Khusniyah & Widayati, 2021). This implementation utilizes API technology for data integration between platforms, enabling rapid verification with government databases (Billiam & Abubakar, 2022).

In practice, borrowers upload identity documents and other supporting data, which are then automatically validated by the system through a connection with the Civil Registration Agency (*Dinas Kependudukan dan Pencatatan Sipil/Dukcapil*) or related institutions to ensure the authenticity and accuracy of the data (Nazran et al., 2024). Once the documents are deemed valid, standard agreement clauses are displayed on the screen, and approval can be granted through a single click, resulting in an electronic document with the same legal force as a conventional contract (Kharisma et al., 2025). To enhance security, the system also implements a double-authentication mechanism, for example, through an OTP code sent via Short Message Service (SMS) or an app, so that user identity can be verified in real time (Sholeh, 2024).

Regionally, the implementation of electronic agreements in Indonesia aligns with the ASEAN Agreement on E-Commerce, which supports the harmonization of cross-border

digital contract standards and the recognition of electronic documents between member countries (Wilbert et al., 2024). The Financial Services Authority requires every agreement to be recorded in a system log, allowing all transactions to be traced for audit purposes and consumer protection (Haykal, 2025). This process ensures that fintech lending mechanisms are not only efficient and fast, but also meet the legality and certainty standards stipulated in the ITE Law, while simultaneously aligning electronic contract practices with traditional contract law theories, including the principles of voluntary consent and *pacta sunt servanda*.

The implementation of electronic agreements in resolving problem loans is also increasingly evident, with electronic evidence being used as a basis for mediation and litigation (Harja & Widiati, 2021). For example, PT Vcard Technology Indonesia implemented a system where borrower agreements include electronic arbitration clauses, enabling online dispute resolution without the need for a physical court appearance (Darma & Jadnya, 2019). This electronic contract records the user's timestamp and IP address for authentication purposes, ensuring the document's integrity and validity are legally enforceable (Khovin et al., 2022).

In other business contexts, similar implementations are seen in consignment transactions via social media, where digital agreements are based on trust between sellers and consumers (Sukarja, 2022). For online loans, the primary concern lies in interest and penalty clauses, which are strictly regulated by fintech associations such as the Indonesian Financial Conduct Association (*Asosiasi Fintech Pendanaan Bersama Indonesia/AFPI*). This regulation aims to protect the interests of both parties, both lenders and borrowers, by establishing interest rate limits, fee transparency, and clear penalty mechanisms (Tjandra, 2020; Annas & Ansori, 2021). Clarity in these clauses is crucial for borrowers to understand their rights and obligations, while minimizing the potential for disputes arising from ignorance or harmful practices.

The electronic contract process in online lending digitally records every agreement, including timestamps, IP addresses, and proof of authentication, giving the contract the same legal force as a conventional agreement (Rusadi & Benuf, 2020). This approach not only provides legal certainty but also supports MSME financing with fast and efficient access to funds, as documents can be verified automatically without time-consuming manual procedures. With a well-documented digital contract mechanism, the risk of disputes is minimized, while transaction transparency and accountability are maintained. This creates a fintech ecosystem that is safe, effective, and trustworthy for all parties involved.

In Sharia fintech, the implementation of electronic agreements not only refers to digital mechanisms but also adheres to Sharia principles, such as trustworthiness and fairness. Digital signatures are carried out in accordance with the DSN-MUI fatwa, making them legally and religiously valid (Supriyadi, 2022; Sitaresmi et al., 2025). Overall, this practice integrates the provisions of the ITE Law with OJK regulations regarding fintech, including transaction recording, data security, and compliance with operational standards, creating a safe, transparent, and trustworthy digital transaction ecosystem (Arifin, 2023; Sanusi et al., 2025).

Obstacles to handling electronic consent in online loan agreements are complex. One major issue is low legal and digital literacy among the public. Many borrowers consent

to contractual clauses without fully understanding the content or legal consequences of the agreement (Priskarini et al., 2019; Sasmita et al., 2022). This is further exacerbated by the use of legal language and technical terms in electronic contracts that are difficult for the general public to understand, resulting in consent being mechanical rather than based on informed consent.

Furthermore, transparency among fintech providers is a significant challenge. Some platforms lack clear information regarding the collection, use, and storage of consumers' personal data, increasing the risk of misuse of information and violations of privacy rights (Tjandra, 2020; Admiral & Pauck, 2023). The lack of effective oversight mechanisms for illegal fintech companies further exacerbates this problem. Unlicensed or non-compliant providers can exploit legal loopholes to engage in unfair practices, including aggressive billing or non-transparent interest and fines (Rusadi & Benuf, 2020; Annas & Ansori, 2021; Sulistyantoro et al., 2024).

Furthermore, technical obstacles also arise in the realm of legal evidence. Electronic evidence mechanisms in court are not yet fully optimized due to doubts regarding the authentication, validity, and integrity of electronic documents, including digital evidence in the form of click agreements, timestamps, and IP address records (Khovin et al., 2022; Lumbanraja et al., 2024). This creates legal uncertainty and the potential for protracted disputes. These obstacles emphasize the need for synchronization between the ITE Law, the Civil Code, and OJK regulations to create clear and comprehensive legal certainty (Astuti, 2016; Alkatiri et al., 2023; Fairuza et al., 2024; Utomo, 2025; Suraji & Prabowo, 2025; Haykal, 2025; Syarifah & Lisnawati, 2025; Ahyani et al., 2025).

Various studies highlight the challenges and risks in implementing electronic agreements and fintech lending in Indonesia. Priskarini et al. (2019) noted privacy violations arising from low digital and legal literacy, while Sulistyandari et al. (2024) highlighted regulatory barriers imposed by the Financial Services Authority (OJK). Admiral and Pauck (2023) pointed out the ineffectiveness of data protection, and Billiam and Abubakar (2022) emphasized the need for API standardization for transaction security. Harja and Widiati (2021) emphasized the risk of default, while Tjandra (2020) criticized the unclear interest rates in online lending, which Annas and Ansori (2021) also linked to the potential for interest cartels.

Additionally, Kharisma et al. (2025) highlight the unfairness of electronic contracts, and Sanusi et al. (2025) emphasize the challenges of fraud. Fairuza et al. (2024) highlight the oversight of the Financial and Development Supervisory Agency (*Badan Pengawasan Perdagangan Berjangka Komoditi Elektronik/BPPKE*), while Wilbert et al. (2024) emphasize regional implications related to ASEAN, and Suwadi et al. (2023) compare electronic contract practices in the US. Arifin (2023) points to regulatory failures, and Sukarja (2022) uses the analogy of personal shopping transactions (*jastip*) to illustrate digital practices.

In the context of sharia, Cahyadi (2020) and Supriyadi (2022) emphasize digital signatures in accordance with Islamic fatwas and ethics. Fintech implementation also includes MSME protection, V-loan case handling, electronic evidence, digital notarization, and ADR mechanisms. Sholeh (2024) emphasizes signature authentication, while Haykal (2025), Utomo (2025), Suraji and Prabowo (2025), Sitaesmi et al. (2025), Syarifah and Lisnawati (2025), and Ahyani et al. (2025) highlight risks, reform, regulatory

harmonization, cybersecurity, patient data protection, and digital fraud prevention (Darma & Jadnya, 2019; Rusadi & Benuf, 2020; Khusniyah & Widayati, 2021; Khovin et al., 2022; Alkatiri et al., 2023; Nazran et al., 2024; Lumbanraja et al., 2024).

3.3. Legal Implications of Default and Efforts to Strengthen the Validity of Electronic Agreements

If a breach of contract occurs in an online loan agreement, such as late payment, failure to fulfill obligations, or violation of the agreement clauses, the legal consequences still refer to the provisions of Article 1243 of the Civil Code concerning compensation for non-fulfillment of obligations (Harja & Widiati, 2021). This breach of contract encompasses various forms of contractual failure, including payment defaults that result in losses for the lender, and can trigger claims for damages covering administrative fees, interest, and immaterial losses resulting from delays or other contractual breaches (Kharisma et al., 2025).

In the digital context, proof of breach must be supported by electronic evidence, such as transaction data records, system logs, or certified electronic signatures (Khusniyah & Widayati, 2021). Based on Article 5 paragraph (1) of the ITE Law, electronic information and documents can be used as valid legal evidence, allowing courts to use "agree" approval logs as the basis for assessing violations (Khovin et al., 2022). This implication is evident in the V-loan case, where borrower default triggered the lender's misuse of personal data, which then became evidence of an additional violation under the ITE Law (Darma & Jadnya, 2019). Furthermore, default can trigger criminal charges if it involves digital fraud, in accordance with Islamic jurisprudence (fiqh jinayah) which prohibits tadlis (fraud) and is in line with the Criminal Code and the ITE Law (Ahyani et al., 2025).

In fintech lending practices, the consequences of default are often complicated by the digital nature of agreements. Evidence of violations generally relies on electronic documents, timestamps, IP address records, click agreements, and digital authentication evidence, which, while legally valid under the ITE Law, are still vulnerable to rebuttal or questioning in court due to the potential for manipulation or system disruption (Khovin et al., 2022; Admiral & Pauck, 2023). In addition, technical issues such as server downtime, system errors, or data loss can affect the validity of digital evidence, so lenders and borrowers must ensure that security mechanisms and electronic recording are running consistently.

Settlement of default disputes in online loans can be through litigation or alternative mechanisms, including mediation or electronic arbitration. Some fintech platforms also include arbitration clauses in digital contracts to expedite dispute resolution, while still considering electronic evidence as a legal basis (Darma & Jadnya, 2019; Lumbanraja et al., 2024). Overall, the digital nature of online loan agreements requires adapting traditional contract law principles to electronic evidence, digital authentication, and dispute resolution procedures in accordance with applicable laws and regulations (Nazran et al., 2024; Sholeh, 2024).

The legal implications also extend to business competition, where interest rate setting by the Indonesian Financial Conduct Authority (AFPI) has the potential to create a cartel,

exacerbating borrower default due to unfair financial burdens (Tjandra, 2020; Annas & Ansori, 2021). In Islamic fintech, default is implied as a breach of trust, where electronic evidence must fulfill the principle of maslahah (benefit) to maintain welfare (Supriyadi, 2022; Sitaesmi et al., 2025). Furthermore, implications for MSMEs as borrowers include prolonged economic losses, as default is often caused by non-transparent clauses in electronic agreements (Rusadi & Benuf, 2020). At the regional level, the ASEAN Agreement on E-Commerce addresses these implications by requiring the harmonization of cross-border digital evidence, where default can involve international jurisdictions (Wilbert et al., 2024).

The legal implications of breach of contract in online loan agreements extend beyond financial compensation to dispute resolution mechanisms. Electronic mediation or arbitration are the primary options for disputing parties, with system logs and other electronic evidence used to validate claims (Lumbanraja et al., 2024). These mechanisms allow for faster resolution than conventional litigation, while minimizing costs and time for both parties. However, their effectiveness depends on the integrity and security of electronic recording systems, including timestamps, IP addresses, and digital authentication. The implications of default in online loan agreements are coupled with the security risks of digital transactions, where breaches of obligations can trigger claims for damages involving cross-platform electronic evidence, such as server data, system logs, and digital authentication (Haykal, 2025). From a digital human rights perspective, default also has the potential to violate borrower privacy, necessitating strong and valid electronic evidence to ensure law enforcement and the protection of individual rights (Utomo, 2025).

Contractual unfairness is also a significant concern. Unfair adhesion clauses or standard clauses can invalidate the right to claim damages if they are found to be unconscionable, detrimental to one party, or substantially disproportionate (Kharisma et al., 2025). In the context of digital notaries, similar implications arise when breaches relate to the validation of electronic documents, which require official certification to ensure the validity of the evidence and avoid future legal disputes (Alkatiri et al., 2023; Nazran et al., 2024). Furthermore, personal data breaches resulting from breaches, such as misuse of user access, can trigger prosecution under the PDP Law. Electronic evidence such as system logs, authentication records, and digital documents are crucial in upholding data subjects' rights and assessing the accountability of data providers (Suraji & Prabowo, 2025; Syarifah & Lisnawati, 2025).

To strengthen the validity of electronic agreements and legal protection for the parties, a series of integrated measures is required. Strengthening technical regulations is a crucial aspect, including the implementation of security standards and certified electronic signature authentication, as well as the adoption of technologies such as blockchain to ensure data integrity and reliability (Cahyadi, 2020; Sanusi et al., 2025). Furthermore, legal education for fintech users must be improved to ensure they understand their contractual rights and obligations, including the importance of reading and reviewing agreement clauses before providing electronic consent (Priskarini et al., 2019; Arifin, 2023). Capacity building for judicial institutions and law enforcement officials is also crucial, particularly in understanding and verifying digital evidence through training in the use of system logs, electronic signatures, and other authentication mechanisms (Khusniyah & Widayati, 2021; Sholeh, 2024). Cooperation between institutions, particularly the Financial Services Authority (*Otoritas Jasa Keuangan/OJK*), the Ministry

of Communication and Information Technology (*Kementerian Komunikasi dan Informatika/Kominfo*), and the National Agency for the Protection of Personal Data (*Badan Siber dan Sandi Negara/BSSN*), needs to be strengthened to build a legal and secure fintech ecosystem, ensuring legal certainty and protecting personal data. Standardizing the Application Programming Interface (API) is also part of this effort, ensuring that digital transactions run smoothly, securely, and comply with national regulations and international practices (Billiam & Abubakar, 2022; Sulistyandari et al., 2024). All of these steps are interconnected to create a trustworthy and equitable online lending system.

In practice, collaboration between institutions such as the Financial Services Authority (OJK) and the National Civil Service Agency (BSSN) is crucial to ensure data authentication, similar to the cloud-based notary model that ensures the validity of electronic documents in contract disputes (Sitaesmi et al., 2025). Furthermore, public education should also encompass an understanding of Sharia principles, such as avoiding gharar or uncertainty in electronic agreements, to ensure Sharia fintech transactions remain legally and ethically valid (Supriyadi, 2022). Furthermore, technical regulations and operational standards need to align with international principles, including UNCITRAL, to ensure global and cross-jurisdictional recognition of electronic contracts (Suwadi et al., 2023). Capacity building for the judiciary and legal apparatus is also necessary, particularly in terms of understanding dispute resolution through electronic ADR, to effectively handle default cases without compromising efficiency (Lumbanraja et al., 2024).

This inter-institutional collaboration not only strengthens the digital ecosystem in general but also helps prevent detrimental practices such as interest rate cartels or contractual clause manipulation, thus providing more comprehensive protection for both borrowers and lenders (Annas & Ansori, 2021). These complex legal implications emphasize that default in fintech lending involves interconnected aspects of contracts, technology, and regulation. In many cases, the implications of default in online loan agreements emphasize the importance of certified digital evidence as the basis for claims for compensation (Darma & Jadnya, 2019). This evidence includes timestamps, IP addresses, system logs, and validated electronic documents, so they can be legally used in court to enforce the rights of both lenders and borrowers. Without adequate digital evidence, default claims are likely to be rejected due to doubts about the authenticity or integrity of the documents.

Furthermore, strengthening through legal education and digital literacy has been shown to increase consumer understanding, thereby reducing the risk of default due to ignorance or misunderstanding of the content of agreement clauses (Sasmita et al., 2022). In the context of technical regulations, internationally implemented digital security and authentication standards, such as those in the United States, serve as important references to ensure the admissibility of electronic evidence across jurisdictions and in accordance with best practices (Suwadi et al., 2023). Judicial capacity also requires adaptation to electronic evidence in civil procedures, including the ability of judges to assess the validity of digital documents and interpret technical data as legal evidence (Khusniyah & Widayati, 2021). Furthermore, collaboration between institutions, particularly the Financial Services Authority (OJK) and the Ministry of Communication and Information Technology (Kominfo), plays a role in ensuring the protection of

personal data in accordance with the PDP Law, so that defaults involving privacy violations can be legally pursued (Admiral & Pauck, 2023).

4. Conclusion

Based on the research conducted, it can be concluded that electronic agreements in online loan agreements have legal validity recognized by Indonesian laws and regulations, specifically Law Number 11 of 2008 concerning Electronic Information and Transactions (UU ITE) and its amendments in Law Number 19 of 2016. This validity applies as long as the agreement is made consciously by the user, uses a reliable and secure electronic system, and meets the principles of prudence and honesty of the parties in conducting digital transactions. The "click agree" mechanism commonly used in online loan applications can be considered legally valid if it meets the elements of agreement as stipulated in Article 1320 of the Civil Code and the principle of electronic system reliability as stipulated in Article 15 of the ITE Law. However, implementation in the field still faces several obstacles, such as low legal and digital literacy among the public, a lack of transparency among providers in presenting agreement clauses, and the challenge of proving electronic evidence in court, which still requires adequate technical and legal understanding. Furthermore, the proliferation of illegal fintech operators has weakened public trust in the legitimacy and security of digital transactions. In cases of default, online loan agreements remain subject to general civil law, with electronic evidence recognized as valid under Article 5 of the Electronic Information and Transactions (ITE) Law.

As a follow-up, the government needs to strengthen regulatory synchronization between the ITE Law, the Civil Code, and OJK regulations to ensure legal certainty and optimal consumer protection. Standardization of certified electronic signatures is also needed to strengthen their evidentiary power in the legal realm. Finally, digital legal education for the public needs to be promoted so that online loan service users have a sufficient understanding before granting consent to online agreements.

5. References

Journals:

- Admiral, A., & Pauck, M. A. (2023). Unveiling the Dark Side of Fintech: Challenges and Breaches in Protecting User Data in Indonesia's Online Loan Services. *Lex Scientia Law Review*, 7(2), 995-1048.
- Agustini, S., Silalahi, U., Sudirman, L., Sihombing, J., & Ahmad, F. (2025). The Urgency of Forming Legislation Regarding Online Loans in Indonesia: Legal Protection Solutions for the Community. *Jurnal Pembaharuan Hukum*, 12(1), 1-18.
- Ahyani, H., Parhan, P., Muhtolib, M., Berizi, A., Nurhasana, N., & Adnan, N. I. M. (2025). Fraud in the Digital Space: A Comparative Study of Jinayah Fiqh and Indonesian Criminal Law. *Jurnal Hukum Islam*, 23(1), 37-72..
- Alkatiri, N. H., Putra, M. F. M., & Ongko, K. (2023). A Legal Perspective: Implementing an Electronic Notarization System in Indonesia in the Post-Pandemic Era. *Jambura Law Review*, 5(2), 332-355.

- Annas, M., & Anshori, M. A. (2021). Problematics of Determining Interest in Peer-to-peer Lending in Indonesia. *Jurnal Media Hukum*, 102-117.
- Arifin, Z. (2023). A Critical Review of Consumer Protection Online Shopping, False Advertising, and Legal Protection. *Journal of Law and Sustainable Development*, 11(5), 21.
- Astuti, S. A. (2016). Penerapan Uu Ite Dan Surat Edaran Kapolri Mengenai Ujaran Kebencian Hate Speech Terhadap Penyimpangan Penggunaan Kebebasan Berekspresi Dalam Kajian Pasal 28 Uud 1945 Tentang Ham Di Ruang Maya Cyber Space. *Lex Publica*, 2(2), 327-340.
- Banjarnahor, M. K. P. (2023). Perlindungan Hukum Konsumen Atas Transaksi Online Dengan Sistem Tekan Tombol Tanda Setuju (Clickwrap Agreements). *Visi Sosial Humaniora*, 4(2), 8-17.
- Billiam, B., Abubakar, L., & Handayani, T. (2022). The urgency of Open Application Programming Interface Standardization in the implementation of open banking to customer data protection for the advancement of Indonesian banking. *PADJADJARAN Jurnal Ilmu Hukum (Journal of Law)*, 9(1), 67-88.
- Cahyadi, T. N. (2020). Aspek Hukum Pemanfaatan Digital Signature Dalam Meningkatkan Efisiensi, Akses Dan Kualitas Fintech Syariah. *Jurnal Rechts Vinding: Media Pembinaan Hukum Nasional*, 9(2), 219.
- Canino, E. (2016). The electronic sign-in-wrap contract: Issues of notice and assent, the average internet user standard, and Unconscionability. *UCDL Rev.*, 50, 535.
- Darma, I. M. W., & Jadnya, P. G. A. P. (2019). Legal Protection of Parties in Online Credit Agreement (Peer to Peer Lending) A Case Study of PT Vcard Technology Indonesia. *PADJADJARAN Jurnal Ilmu Hukum (Journal of Law)*, 6(3), 511-532.
- Fairuza, H. H., Supriantoro, N. C., & Trianto, A. R. (2024). Conceptualizing the Establishment of BPPKE: Legal Protection for Businesses in Indonesia. *jhbbc*, 58-68.
- Hardyansah, R., Darmawan, D., & Negara, D. S. (2025). Agreements in Online Loans and Consumer Legal Protection in Online Loan Services in Indonesia. *JURNAL AKTA*, 12(2), 388-397.
- Harja, R. P., & Widiati, E. P. (2021). Penyelesaian Pinjaman Bermasalah dalam Perusahaan Teknologi Finansial di Indonesia. *Media Iuris*, 4(3), 436-456.
- Haykal, H. (2025). Toward a Responsive Legal Framework: Addressing Transaction Security Risks in Indonesia's Digital Banking Services. *International Journal of Law and Society (IJLS)*, 4(2), 234-249.
- Jerker, D., & Svantesson, B. (2011). 'Unconscionability' in Consumer Ecommerce. *Commercial Law Quarterly: The Journal of the Commercial Law Association of Australia*, 25(1), 8-13.

- Kharisma, D. B., Hernoko, A. Y., Thalib, P., & Rana, D. S. (2025). The nature of fairness in contracts: An electronic contract perspective. *Jurnal Hukum Novelty* (1412-6834), 16(1).
- Khovin, C. C., & Djajaputra, G. (2022). Keabsahan kontrak tanda tangan elektronik dalam perjanjian pendanaan p2p lending. *Jurnal Hukum Adigama*, 5(2), 274-297.
- Khusniyah, N. K., & Widayati, W. Implementation of Signature Validity On Electronic Documents in Proof Indonesian Civil Procedure Law. *Law Development Journal*, 3(4), 767-773.
- Lumbanraja, B. Y., Utama, Y. J., & Putrijanti, A. (2024). E-Musyawarah: innovative ADR for resolving administrative disputes outside the court from the perspective of Lawrence M. Friedman's legal system theory. *Revista Brasileira de Alternative Dispute Resolution-Brazilian Journal of Alternative Dispute Resolution-RBADR*, 6(12), 53-72.
- Mulyani, S., Suparno, S., & Sukmariningsih, R. M. (2023). Regulations and Compliance in Electronic Commerce Taxation Policies: Addressing Cybersecurity Challenges in the Digital Economy. *International Journal of Cyber Criminology*, 17(2), 133-146.
- Nazran, F., Purba, H., Saidin, O. K., & Kaban, M. (2024). Legal Protection of Notaries in Document Validation through Technology-Based Systems: A Comparative Legal Review of Indonesia, the United States, the Netherlands, and Australia. *Journal of Ecohumanism*, 3(7), 4975-4982.
- Patrikios, A. (2006). Resolution of cross-border e-business disputes by arbitration tribunals on the basis of transnational substantive rules of law and e-business usages: The emergence of the lex informatica. *U. Tol. L. Rev.*, 38, 271.
- Prasad, D., & Mishra, P. (2022). Unconscionability of E-contracts: A comparative study of India, the United Kingdom, and the United States. *Liverpool Law Review*, 43(2), 339-360.
- Priskarini, I. A., & Tejomurti, K. (2019). The Role of The Financial Services Authority in The Legal Protection of Privacy Rights in Connection with Personal Data of Fintech Lending Debtor in Indonesia. *Padjadjaran Jurnal Ilmu Hukum (Journal of Law)*, 6(3), 556-575.
- Putri, B. M. L., Nhung, P. H., & Putri, R. W. (2025). Analysis of Consumer Rights Protection Against the Misuse of Personal Data in Fintech Services. *Lex Publica*, 12(1), 32-62.
- Rusadi, F. A. R. P., & Benuf, K. (2020). Fintech peer to peer lending as a financing alternative for the development MSMEs in Indonesia. *Legality: Jurnal Ilmiah Hukum*, 28(2), 232-244.
- Sanusi, S. Opportunities and Challenges of Land Sale and Purchase Agreement Transactions in the Digital Era in Indonesia. *Indonesia Law Review*, 15(1), 7.
- Sasmita, H. T., Kamilah, S., Wardodo, R. I., & Wicaksana, T. D. S. W. (2022). Analisis Faktor Perlindungan Konsumen Dalam Urgensi Pembentukan Undang-Undang Pinjaman Online (Peer To Peer Lending). *Media Iuris*, 5(1), 39.

- Shidarta, S. (2023). Teori Timbulnya Perjanjian dalam Transaksi Konsumen Elektronik. *Jurnal Rechts Vinding: Media Pembinaan Hukum Nasional*, 12(2).
- Sholeh, A. Juridical Analysis of The Strength of Electronic Signatures as Legality Reviewed from The Electronic Transaction Information Law & The Civil Law Book. *Ratio Legis Journal*, 2(4), 1734-1744.
- Sitaresmi, A., Rahmah, M., Wijoyo, S., Anom, A. P., & Prayogo, F. M. (2025). Legal Frameworks for Cybersecurity and Data Protection in Cloud-Based Notarial Systems in Indonesia: An Intersectional Analysis of Positive Law and Islamic Legal Principles. *Al-'Adalah*, 22(1).
- Soetoto, E. O. H. (2020). The Comparison of Online Sale and Purchase Agreements as an Effect of Globalization in Indonesia & Malaysia. *International Journal of Law Reconstruction*, 8(2), 331-342.
- Subagyo, D. T., Gestora, L. R., & Sulistiyo, S. (2022). Characteristic of illegal online loans in Indonesia. *Indonesia Private Law Review*, 3(1), 63-76.
- Subarkah, A. D., & Gravionika, E. (2024). Validitas Hukum Perjanjian Clickwrap dan Browsewrap dalam Transaksi E-commerce: Kajian Normatif terhadap Prinsip Konsensualisme. *Jurnal Hukum Legalita*, 6(2), 260-267.
- Sukarja, D. (2022). Contract Law Aspects of Buying Service Arrangements Outside E-Commerce Platforms: Between Convenience and Risks. *Bild Law Journal* 7(2), 102–111.
- Sulistyandari, U. A., Prihatinah, T. L., & Yuliantiningsih, A. (2024). Users by the Indonesian Financial Services Authority (OJK) in Financial Services. *E-banking, Fintech, & Financial Crimes: The Current Economic and Regulatory Landscape*, 133–142.
- Sulistyantoro, G. T., Khaq, A., Khan, M. Z. K., Amin, A., & Hussain, A. A. M. (2024). Shaping Artificial Intelligence Governance and Risk Management in the Public Sector: Regulatory Insights. *Lex Publica*, 11(1), 161-181.
- Supriyadi, A. P. (2022). An Islamic spirit for business ethics and legal framework of fintech peer to peer lending: why does Indonesia need it?. *Jurisdictie: Jurnal Hukum Dan Syariah*, 13(2), 294-321.
- Suraji, S., and I. A. Prabowo. (2025). Harmonizing Privacy Rights Protection in Electronic Transactions with Roscoe Pound's Legal Principle. *Indonesian Journal of Advocacy and Legal Services* 7(1), 71–94.
- Suwadi, P., Manthovani, R., & Assyifa, A. K. (2023). Legal Comparison of Electronic Contract in Electronic Commerce Between Indonesia and the United States Based on the United Nations Commission on International Trade Law. *Journal of Law and Sustainable Development*, 11(3), e714-e714.
- Syarifah, M. C., and D. A. Lisnawati. (2025). Legal Aspects of Disclosing Patient Data under Electronic Information and Transaction Law. *Romanian Journal of Legal Medicine* 33 (2), 166–170.

Tjandra, A. (2020). Kekosongan norma penentuan bunga pinjaman financial technology peer to peer lending. *jhbbc*, 90-103.

Utomo, S. (2023). The Digital Age and Human Rights Protection in Indonesia: Legal Framework, Challenges, and Reform Directions. *Yustisia*, 14(2), 225-241.

Wilbert, W., Siregar, M., Sukarja, D., & Natcha, N. (2024). Legal Analysis of the Implications of the ASEAN Agreement on E-Commerce for Electronic Business Contracts in Indonesia. *Jurnal Suara Hukum*, 6(1), 48-67.

Books:

Castellani, L. G. (2023). UNCITRAL texts on electronic commerce. In *The Elgar Companion to UNCITRAL* (pp. 512-524). Edward Elgar Publishing.