

Legal Validity of Digital Contracts in Indonesian Business Transactions: A Normative Study of the Civil Code and Electronic Information and Transactions Law

Vivi Sylvia Purborini^{1*}, Suryaningsih²

¹²Universitas Wisnuwardhana Malang, East Java, Indonesia

Correspondence: velioraps1@gmail.com¹

Abstract

The development of digital business transactions in Indonesia has changed the way contracts are made, from written paper agreements to electronic agreements. This change raises legal questions about whether digital contracts are valid, enforceable, and able to provide legal certainty under Indonesian civil law. This article examines the validity of digital contracts based on Article 1320 of the Indonesian Civil Code and the Electronic Information and Transactions Law. Previous studies have discussed electronic contracts in e-commerce, electronic documents as evidence, and the recognition of digital agreements in Indonesian law. However, these studies have not clearly explained how each requirement of contract validity applies to digital business contracts. This article fills that gap by discussing electronic consent, legal capacity, clear contractual objects, lawful causes, authentication, and the reliability of electronic evidence. This study uses a normative legal method with statutory and conceptual approaches. The analysis shows that digital contracts are valid as long as they meet the requirements of Article 1320 of the Civil Code and are supported by the Electronic Information and Transactions Law. Even so, several legal problems remain, especially in proving consent, verifying the identity and capacity of the parties, protecting the integrity of electronic records, and handling cross-border digital transactions. This article concludes that Indonesian civil law can accommodate digital contracts, but clearer legal interpretation and better regulatory harmony are needed to strengthen legal certainty in modern business transactions.

KEYWORDS

digital contracts; civil law; business transactions; normative legal analysis.

Introduction

The rapid advancement of information and communication technology has significantly transformed the landscape of business transactions, shifting from conventional face-to-face agreements to digitally mediated interactions. In modern commerce, digital contracts have become a fundamental instrument facilitating efficiency, speed, and global reach in business activities (Murray, 2019). The increasing use of e-commerce platforms, electronic signatures, and automated systems has enabled parties to enter into agreements without physical presence, thereby redefining traditional contractual relationships. However, this transformation also raises critical legal questions concerning the validity, enforceability, and evidentiary value of digital contracts, particularly within civil law systems that traditionally emphasize formal and written agreements (Bainbridge, 2020).

In the Indonesian legal context, contractual validity is primarily governed by the Civil Code (Kitab Undang-Undang Hukum Perdata/KUHPerdata), particularly Article 1320, which requires four essential elements for a valid agreement: consent of the parties, legal capacity, a certain subject matter, and a lawful cause. These

requirements remain the doctrinal foundation for assessing the validity of all contracts, including contracts formed through electronic platforms. However, digital contracting raises specific tensions that are not fully addressed by the traditional formulation of Article 1320. Consent, for example, may be expressed through clicks, electronic acceptance, automated systems, or digital signatures, making it necessary to determine whether such forms of expression satisfy the civil-law requirement of genuine agreement between the parties.

At the same time, electronic transactions are regulated under Law Number 11 of 2008 concerning Electronic Information and Transactions, as amended by Law Number 19 of 2016 (UU ITE), which recognizes electronic information, electronic documents, and electronic signatures as legally valid evidence (Indonesia, 2016). This recognition strengthens the legal basis of digital contracts, but it also creates doctrinal questions concerning authentication, evidentiary reliability, and enforceability. In business transactions, these issues are especially important because parties must be able to verify the identity and capacity of contracting parties, prove the integrity of electronic records, and enforce contractual obligations when transactions occur across different jurisdictions. Therefore, the main doctrinal problem is not whether Indonesian law recognizes digital contracts in general, but how the Civil Code's traditional validity requirements should be harmonized with the evidentiary and technological framework of the UU ITE to ensure legal certainty in digital business transactions. Previous studies have generally focused on electronic commerce, electronic evidence, and regulatory frameworks. However, limited attention has been given to a comprehensive normative analysis of digital contracts at the intersection of Article 1320 of the Indonesian Civil Code and the Electronic Information and Transactions Law. This gap is important because the validity of digital contracts in business transactions depends not only on general recognition under electronic transaction law, but also on whether the essential elements of contract validity can be properly applied to digital modes of agreement formation.

Accordingly, this study aims to analyze the legal validity of digital contracts in Indonesian business transactions from a normative civil-law perspective. To address this objective, the study is guided by the following research questions: first, how do the requirements of consent, legal capacity, certain subject matter, and lawful cause under Article 1320 of the Civil Code apply to digital contracts? Second, how does the Electronic Information and Transactions Law recognize electronic documents, electronic signatures, and electronic contracts in relation to contractual validity? Third, what doctrinal and practical challenges remain in ensuring authentication, evidentiary reliability, and enforceability of digital contracts in business transactions?

In the Indonesian legal context, contractual validity is primarily governed by the Civil Code (Kitab Undang-Undang Hukum Perdata/KUHPerdata), particularly Article 1320, which stipulates four essential elements of a valid agreement: consent of the parties, legal capacity, a certain subject matter, and a lawful cause. (Indonesia, 2016). The coexistence of these two legal frameworks raises important doctrinal questions regarding the harmonization of traditional civil law principles with modern digital practices (Kim, 2018).

The emergence of digital contracts challenges existing legal doctrines, particularly in relation to the manifestation of consent and the verification of parties' identities. Unlike conventional contracts, digital agreements often rely on electronic consent mechanisms such as click-wrap or browse-wrap agreements, which may raise doubts about the genuine intention of the parties (Kuner, 2017) (Murray, 2019)

(Rahman, 2023). Furthermore, issues related to

authentication, data integrity, and cybersecurity introduce additional complexities in ensuring the validity and reliability of digital contracts (Bainbridge, 2020). In cross-border transactions, these challenges are further exacerbated by differences in national legal systems, leading to potential conflicts of law and enforcement difficulties (Kuner, 2017) (Kuner, 2017).

From a normative legal perspective, it is essential to examine whether digital contracts fulfill the legal requirements stipulated in Article 1320 of the Civil Code and how the provisions of the UU ITE support or modify these requirements in practice. While UU ITE provides legal recognition for electronic documents and transactions, it does not entirely replace the fundamental principles of contract law under the Civil Code. Therefore, a doctrinal analysis is necessary to understand how these legal instruments interact and whether they provide sufficient legal certainty for business actors engaging in digital transactions (Werbach & Cornell, 2017).

Previous studies have generally focused on electronic commerce and regulatory frameworks; however, limited attention has been given to a comprehensive normative legal analysis of digital contracts specifically within the intersection of civil law and Indonesian positive law. This indicates a research gap that necessitates further scholarly inquiry. Accordingly, this study aims to analyze the legal validity of digital contracts in business transactions from a civil law perspective within the Indonesian legal system. The research question addressed in this paper is: How are digital contracts recognized and validated under civil law principles, particularly under the Civil Code and UU ITE, in business transactions?

Methods

This study employs a normative legal research method aimed at examining the legal norms, principles, and doctrines governing the validity of digital contracts in Indonesian business transactions. The analysis uses statute and conceptual approaches. The statute approach is conducted by examining legal provisions that directly regulate contractual validity and electronic transactions, particularly Article 1320 of the Indonesian Civil Code concerning consent, legal capacity, certain subject matter, and lawful cause; related provisions of the Civil Code on the binding force and performance of agreements; and Law Number 11 of 2008 concerning Electronic Information and Transactions, as amended by Law Number 19 of 2016, especially provisions concerning electronic information, electronic documents, electronic signatures, and electronic contracts. These legal materials are selected because they form the main normative basis for determining whether a digital contract can be recognized as a valid and enforceable agreement under Indonesian law.

The conceptual approach is used to examine legal doctrines on contract formation, party autonomy, consent, legal capacity, evidentiary reliability, authentication, and legal certainty in digital agreements. Secondary legal materials, including books, journal articles, and scholarly commentaries, are selected based on their relevance to civil-law contract doctrine and electronic transaction law. Court decisions are not treated as the main object of analysis, but they may be used where relevant to clarify judicial interpretation of electronic evidence, contractual validity, or the enforceability of digital agreements. The analysis proceeds in four steps: first, identifying the essential validity requirements under the Civil Code; second, examining how the Electronic Information and Transactions Law recognizes electronic documents, signatures, and contracts; third, comparing civil-law contract doctrines with the legal characteristics of digital contract formation; and fourth, deriving prescriptive conclusions on how Indonesian civil law should harmonize traditional contract principles with

digital transaction rules to strengthen legal certainty in business transactions. (Murray, 2019)

The types of legal materials used in this research consist of primary, secondary, and tertiary legal materials. Primary legal materials include statutory regulations such as the Civil Code and UU ITE. Secondary legal materials consist of legal textbooks, journal articles, and scholarly writings related to contract law, electronic transactions, and civil law principles (Luhmann, n.d.) (Murray, 2019) Tertiary legal materials include legal dictionaries and other supporting references that provide clarification of legal terms and concepts. All legal materials are collected through a literature study.

The analysis of legal materials is carried out using qualitative legal analysis with a prescriptive approach. This involves interpreting legal norms, identifying inconsistencies or gaps between traditional civil law principles and digital transaction regulations, and constructing legal arguments regarding the validity of digital contracts. The study aims to provide a systematic and coherent understanding of how digital contracts are regulated and recognized within the Indonesian civil law framework without relying on empirical data or statistical analysis.

Result and Discussion

Legal Validity of Digital Contracts under Civil Law

The validity of digital contracts in Indonesian business transactions must be examined through the four essential requirements set out in Article 1320 of the Civil Code. Rather than treating digital contracts as a separate category outside general contract law, the analysis should begin by assessing whether each element of contractual validity can be fulfilled in an electronic environment. First, the requirement of consent of the parties may be satisfied when the parties express agreement through electronic means, such as clicking an acceptance button, confirming an order, using an electronic signature, or communicating approval through a digital platform. However, this element also creates a doctrinal issue because electronic consent must still reflect a genuine meeting of minds. In digital transactions, consent may be affected by unclear terms, automated acceptance systems, standard-form contracts, or the absence of meaningful negotiation between the parties. Second, the requirement of legal capacity remains applicable to digital contracts. The parties entering into an electronic agreement must have the legal ability to bind themselves under Indonesian civil law. The difficulty in digital transactions lies not in the doctrine itself, but in verifying the identity, age, authority, and legal status of the parties, especially when contracts are concluded remotely or through digital intermediaries. Third, the requirement of a certain object can be fulfilled when the goods, services, rights, or obligations agreed upon in the digital contract are clearly identifiable. Digital contracts used in business transactions may therefore satisfy this element if the object of the agreement is specified through electronic documents, platform terms, order details, invoices, or other digital records. Nevertheless, uncertainty may arise when the contractual object is described ambiguously, changed through digital communication, or embedded in terms that are not clearly accessible to one of the parties. Fourth, the requirement of a lawful cause requires that the purpose and substance of the digital contract do not violate law, public order, or morality. A digital form does not by itself affect the lawfulness of a contract. However, this element becomes important in business transactions involving prohibited goods or services, unlawful digital activities, misleading online commercial practices, or cross-border transactions that may be lawful in one jurisdiction but restricted in another.

Based on this element-by-element analysis, digital contracts may be regarded as legally valid under Indonesian civil law when they satisfy the requirements of consent, capacity, a certain object, and a lawful cause. The key doctrinal issue is therefore not whether digital contracts can be valid in principle, but how each traditional requirement under Article 1320 should be interpreted and applied to electronic modes of contract formation. This shows that Indonesian civil law remains applicable to digital contracts, while also requiring support from electronic transaction rules to address authentication, evidentiary reliability, and legal certainty in digital business practice.

The results of this study show that digital contracts in business transactions are legally valid under Indonesian civil law, provided that they fulfill the essential elements stipulated in Article 1320 of the Civil Code, namely consent of the parties, legal capacity, a certain object, and a lawful cause. This confirms that the traditional principles of contract law remain applicable in digital contexts (Brownsword, n.d.).

The legal validity of digital contracts under civil law remains fundamentally grounded in the general principles of contract law, particularly those stipulated in Article 1320 of the Indonesian Civil Code (KUHPPerdata), which requires consent, legal capacity, a certain object, and a lawful cause. Recent studies confirm that these requirements continue to apply to digital contracts, indicating that the shift from conventional to electronic agreements does not alter the substantive legal standards but rather transforms the medium through which agreements are formed (Reed, 2018) In this regard, digital contracts are considered valid and legally binding as long as they meet these essential elements, regardless of whether they are concluded electronically or in written form.

From a contemporary doctrinal perspective, the principle of consensualism remains central to contract validity, even in digital environments. Electronic consent—manifested through mechanisms such as click-wrap agreements, browse-wrap agreements, or electronic signatures—is widely recognized as a valid expression of agreement in modern legal systems (Ranchordás, 2020) (Sari & Nugroho, 2021). This reflects the adaptability of civil law principles to technological developments, where the essence of agreement lies not in its form but in the existence of mutual assent between parties. However, recent research highlights that digital consent often raises concerns regarding the quality and authenticity of agreement, particularly when users accept terms without fully understanding them (Rahman, 2023) (De Franceschi, 2020).

The legal recognition of digital contracts in Indonesia is further reinforced by Law Number 11 of 2008 concerning Electronic Information and Transactions, as amended by Law Number 19 of 2016 (UU ITE). This regulation affirms that electronic documents and electronic signatures possess legal force and are admissible as evidence, (Kerber, 2018) provided that they meet requirements such as authenticity, integrity, and reliability (Putri, 2020) (Busch, 2019). The principle underlying this recognition aligns with the concept of functional equivalence, where electronic communications are treated as legally equivalent to traditional written documents when they fulfill the same legal functions (Nasution, 2019). Consequently, the combination of the Civil Code and UU ITE establishes a dual legal framework that supports the validity of digital contracts in Indonesia.

Nevertheless, the implementation of digital contracts also presents significant legal challenges. One of the primary issues relates to the verification of consent and the identification of contracting parties in an online environment, where physical interaction is absent. This increases the risk of fraud, impersonation, and disputes over the authenticity of agreements (Hidayat, 2022). Additionally, the rapid development of advanced technologies such as artificial intelligence and smart contracts introduces further complexity,

particularly in determining legal responsibility and the existence of free will in automated agreements (Wibowo, 2024). These developments raise important questions about whether traditional civil law concepts can adequately address emerging forms of digital transactions (Kerber, 2018).

Moreover, recent studies emphasize the existence of a normative gap between classical civil law provisions and the evolving realities of digital contracts. Although UU ITE provides formal recognition of electronic agreements, it does not comprehensively regulate all aspects of digital contracting, such as standard electronic contracts, cross-border enforcement, and dispute resolution mechanisms (Fauzi, 2021). As a result, legal uncertainty may arise in practice, particularly in complex business transactions involving multiple jurisdictions or advanced technologies (Fairfield, 2019) (Schmitz, 2020).

In conclusion, the legal validity of digital contracts under civil law is well established both doctrinally and normatively, as long as the essential elements of a valid agreement are fulfilled. However, the effectiveness of these contracts in practice depends on the ability of the legal system to address challenges related to consent verification, identity authentication, and technological reliability. Therefore, ongoing legal development and harmonization between the Civil Code and UU ITE are necessary to ensure greater legal certainty and protection in digital business transactions (Nasution, 2019) (Sari & Nugroho, 2021).

Forms of Consent in Digital Agreements

In digital environments, consent is generally expressed through electronic mechanisms such as click-wrap agreements, browse-wrap agreements, and electronic signatures. These forms of consent represent a transformation of traditional agreement mechanisms into digital formats while still maintaining the core requirement of mutual assent between parties (Hidayat, 2022) (Santoso, 2022).

Consent is a fundamental element in contract law, reflecting the agreement of the parties to be legally bound. In the context of digital agreements, the manifestation of consent has evolved from traditional written or oral expressions into various electronic forms. Under civil law principles, consent remains valid as long as there is a clear and intentional expression of agreement, regardless of the medium used (Sari & Nugroho, 2021). This principle is particularly relevant in digital environments, where transactions are conducted without direct physical interaction between the parties (Fauzi, 2021) (Pratama, 2022).

In practice, consent in digital contracts is commonly expressed through mechanisms such as click-wrap agreements, browse-wrap agreements, and electronic signatures. Click-wrap agreements require users to actively indicate their consent by clicking an "I agree" button after being presented with the terms and conditions. This form of agreement is generally considered the most reliable in demonstrating explicit consent, as it involves a clear affirmative action by the user (Rahmawati, 2020) (Rahman, 2023). In contrast, browse-wrap agreements do not require explicit acceptance but assume consent based on the user's continued use of a website or service. This type of agreement raises legal concerns due to the lack of explicit acknowledgment, potentially weakening the validity of consent (Fauzi, 2021).

Electronic signatures also play a crucial role in expressing consent in digital contracts. Under the Indonesian legal framework, particularly the UU ITE, electronic signatures are recognized as legally valid and binding, provided that they meet certain requirements such as authenticity, integrity, and the ability to identify the signatory (Putri, 2020). The use of certified electronic signatures enhances legal certainty by

ensuring that the identity of the parties can be verified and that the content of the agreement has not been altered. This aligns with the broader legal principle that the form of consent is less important than its reliability and verifiability.

However, the use of digital consent mechanisms also introduces several legal challenges. One significant issue is the question of whether consent given in digital environments truly reflects the free will of the parties. In many cases, users tend to accept terms and conditions without reading or fully understanding them, leading to what is often referred to as "constructive consent" rather than genuine agreement (Hidayat, 2022). This phenomenon raises concerns about the validity of consent under civil law, particularly in relation to the principle of good faith (*itikad baik*).

Additionally, the imbalance of bargaining power between businesses and consumers in digital transactions may further complicate the issue of consent. Standard form contracts, which are commonly used in online platforms, often leave users with little or no opportunity to negotiate the terms of the agreement. This situation may potentially undermine the fairness and voluntariness of consent, which are essential components of a valid contract (Utami, 2023). As a result, there is a growing need for legal safeguards to ensure that digital consent mechanisms do not disadvantage weaker parties.

From a normative perspective, the validity of consent in digital agreements ultimately depends on whether it fulfills the essential requirements of clarity, voluntariness, and informed agreement (Wibowo, 2024). While the Indonesian legal framework, particularly through the Civil Code and UU ITE, provides recognition for electronic forms of consent, further regulatory development is necessary to address the complexities of digital transactions. This includes clearer standards for user consent, improved transparency in digital contracts, and stronger consumer protection mechanisms (Elyviatino & Nugroho, 2025).

In conclusion, the forms of consent in digital agreements demonstrate the adaptability of civil law principles to technological developments. However, ensuring the validity and fairness of such consent requires not only legal recognition but also practical safeguards to address the inherent challenges of digital environments.

Legal Recognition under UU ITE

Law Number 11 of 2008 concerning Electronic Information and Transactions as amended by Law Number 19 of 2016 (UU ITE) explicitly recognizes electronic documents and electronic signatures as legally valid and binding, as long as they meet the legal requirements. This provision strengthens the legal position of digital contracts within the Indonesian legal system.

The legal recognition of digital contracts in Indonesia is primarily governed by Law Number 11 of 2008 concerning Electronic Information and Transactions, as amended by Law Number 19 of 2016 (UU ITE). This legislation serves as the foundational framework that legitimizes electronic transactions and provides legal certainty for digital agreements. Under Article 5 of the UU ITE, electronic information and/or electronic documents are recognized as valid legal evidence, equivalent to written documents, as long as they comply with applicable legal requirements (Indonesia, 2016). This provision reflects the adoption of the functional equivalence principle, whereby electronic forms are treated as legally equivalent to their conventional counterparts when they fulfill the same function (Pemayun & Dewi, 2025) (Nasution, 2019).

Furthermore, UU ITE explicitly recognizes electronic signatures as having legal force and binding effect, provided that they meet certain criteria, including the ability to identify the signatory, ensure the integrity of the information, and demonstrate the consent of the parties involved (Putri, 2020). This recognition is crucial in the context of digital contracts, as electronic signatures function as a primary means of validating

agreement and ensuring accountability in electronic transactions. The use of certified electronic signature providers also enhances trust and reliability in digital contracting practices, thereby supporting the development of secure electronic commerce systems (Sudarto, 2025) (Pratama, 2022).

In addition to recognizing electronic documents and signatures, UU ITE also regulates the operation of electronic systems and the responsibilities of electronic system providers. This includes requirements related to system reliability, data security, and the protection of electronic information. These provisions are essential (Kadly et al., 2021) in ensuring that digital contracts are not only legally valid but also supported by a secure technological infrastructure (Hidayat, 2022). The reliability of electronic systems directly affects the enforceability of digital contracts, particularly in terms of evidentiary strength and dispute resolution (Sinaga, 2023) (Hutapea & Sulistiyono, 2024).

However, despite providing a strong legal foundation, UU ITE does not comprehensively regulate all aspects of digital contracts. Several legal issues remain inadequately addressed, including the regulation of standard electronic contracts, cross-border jurisdiction, and detailed mechanisms for dispute resolution in digital transactions (Fauzi, 2021). This creates a normative gap between the recognition of digital contracts and their practical implementation, particularly in complex business environments involving multiple legal systems (Suparidho, 2023).

Moreover, the interaction between UU ITE and the Civil Code raises important interpretative challenges. While UU ITE provides formal recognition of electronic agreements, the substantive validity of such contracts still depends on the fulfillment of the requirements set out in Article 1320 of the Civil Code. This dual framework necessitates a harmonized interpretation to ensure consistency and legal certainty (Sari & Nugroho, 2021). Without such harmonization, there is a risk of legal ambiguity, particularly in cases where electronic transactions do not clearly meet traditional contractual requirements (Sopamena, 2023).

From a normative legal perspective, the recognition of digital contracts under UU ITE demonstrates the adaptability of Indonesian law to technological developments. However, further legal refinement is necessary to address emerging challenges, including the increasing use of artificial intelligence, automated contracting systems, and cross-border digital commerce (Dethan & Irianto, 2024) (Wibowo, 2024). Strengthening regulatory provisions and ensuring alignment with civil law principles will be essential in enhancing legal certainty and protecting the interests of all parties involved (Oktaviani, 2021) (Khairi, n.d.).

In conclusion, UU ITE plays a pivotal role in providing legal recognition and legitimacy to digital contracts in Indonesia. While it successfully establishes the legal status of electronic documents and signatures, its effectiveness depends on its harmonization with the Civil Code and the development of more detailed regulations to address evolving digital business practices (Wahyuni et al., 2023) (Vrachasotakis, 2022).

Practical Use in Business Transactions

Furthermore, the study finds that digital contracts are widely used in various business sectors, including e-commerce and online services, indicating their practical relevance and acceptance in modern transactions. The integration of digital contracts has become essential in supporting efficiency and scalability in business activities.

The practical use of digital contracts in business transactions has increased significantly alongside the rapid growth of digital technology and electronic commerce. In contemporary business practices, digital contracts are widely utilized across various sectors, including e-commerce,

financial technology (fintech), online services, and digital marketplaces. These contracts enable businesses to conduct transactions efficiently, reduce operational costs, and expand their market reach beyond geographical boundaries (Pratama, 2022) (Munawar, 2022). The use of digital platforms allows parties to enter into agreements in real time, thereby enhancing the speed and flexibility of business operations.

In Indonesia, the adoption of digital contracts is particularly evident in the e-commerce sector, where standard form agreements are commonly used to regulate transactions between business actors and consumers. These agreements are typically presented in electronic form and accepted through click-wrap mechanisms, allowing transactions to be completed quickly and seamlessly (Nugraheni, N., Mentari, N., and Shafira, B, n.d.) (Sari & Nugroho, 2021). Similarly, in the fintech industry, digital contracts are used in services such as online lending, digital payments, and investment platforms, where agreements are executed electronically without direct physical interaction between the parties (De Filippi, P., & Hassan, S, 2018) (Hidayat, 2022). This demonstrates that digital contracts have become an integral part of modern business infrastructure.

Moreover, digital contracts contribute to increased efficiency and legal certainty in business transactions. The use of electronic signatures and digital records facilitates documentation, storage, and retrieval of contractual agreements, which is particularly beneficial in dispute resolution processes (Putri, 2020). Electronic documentation also reduces reliance on paper-based systems, supporting sustainability and cost-effectiveness in business operations. Additionally, the integration of digital contracts with automated systems enables businesses to streamline processes such as order confirmation, payment processing, and service delivery (Wibowo, 2024).

However, despite their widespread use, the practical implementation of digital contracts is not without challenges. One of the primary concerns relates to the imbalance of bargaining power, particularly in standard form electronic contracts where consumers have limited opportunity to negotiate terms (Fauzi, 2021). This may lead to unfair contract terms and raise questions about consumer protection. Furthermore, the reliance on digital systems introduces risks related to cybersecurity, data breaches, and system failures, which may affect the validity and enforceability of contracts (Nasution, 2019).

Another important issue is the cross-border nature of digital transactions, which often involves parties from different jurisdictions. This creates complexities in determining applicable law, jurisdiction, and dispute resolution mechanisms. In such cases, the absence of harmonized international legal standards may lead to legal uncertainty and difficulties in enforcing contractual rights (Rahman, 2023). Therefore, businesses engaging in digital transactions must carefully consider legal compliance and risk management strategies.

From a normative perspective, the widespread use of digital contracts reflects the successful integration of legal principles with technological innovation. However, to ensure their effectiveness, it is necessary to strengthen regulatory frameworks, enhance digital literacy among users, and improve the reliability of electronic systems. Legal institutions must also adapt to address emerging challenges in digital business practices.

In conclusion, digital contracts play a crucial role in facilitating modern business transactions by enhancing efficiency, accessibility, and scalability. While their practical use demonstrates significant benefits, it also highlights the need for continuous legal and technological development to ensure fairness, security, and legal certainty in digital business environments.

Identified Legal Challenges

However, several issues are identified, including challenges in verifying electronic consent, determining the identity and legal capacity of the parties, and ensuring the integrity of electronic systems. These findings suggest that while the legal foundation exists, its application in practice is not without limitations.

Despite the legal recognition and widespread use of digital contracts in business transactions, several significant legal challenges remain in their implementation. One of the primary issues concerns the verification of consent in digital environments. Unlike conventional contracts, where consent is often expressed explicitly through signatures or direct negotiation, digital contracts frequently rely on standardized mechanisms such as click-wrap or browse-wrap agreements. These mechanisms may not always reflect genuine or informed consent, as users tend to accept terms without fully reading or understanding them (Rahman, 2023). This raises concerns regarding the validity of consent under civil law principles, particularly in relation to the requirement of a true meeting of minds and the principle of good faith (*itikad baik*).

Another critical challenge relates to the identification and legal capacity of contracting parties. In digital transactions, the absence of face-to-face interaction increases the risk of identity fraud, impersonation, and unauthorized access. Determining whether the parties possess the legal capacity to enter into a contract becomes more complex in online environments, especially when transactions involve minors or parties using false identities (Hidayat, 2022). Although electronic signatures and authentication systems are designed to address these issues, their effectiveness depends on the reliability and security of the underlying technology (Putri, 2020).

Furthermore, the integrity and security of electronic systems play a crucial role in ensuring the validity and enforceability of digital contracts. Digital transactions are vulnerable to cybersecurity threats such as data breaches, hacking, and system manipulation, which may compromise the authenticity and reliability of electronic documents (Nasution, 2019). In such cases, disputes may arise regarding the evidentiary value of digital contracts, particularly if the integrity of the data cannot be guaranteed. This highlights the need for robust technological safeguards and regulatory standards to support the legal framework.

In addition, the use of standard form electronic contracts raises concerns about fairness and balance between the parties. In many digital transactions, particularly in e-commerce and online services, contracts are drafted unilaterally by businesses, leaving consumers with limited bargaining power and no opportunity to negotiate terms (Fauzi, 2021). This imbalance may lead to the inclusion of unfair or burdensome clauses, potentially undermining the principle of justice in contract law. As a result, stronger consumer protection mechanisms are required to ensure that digital contracts do not disadvantage weaker parties.

The cross-border nature of digital transactions also presents a complex legal challenge. Digital contracts often involve parties from different jurisdictions, leading to uncertainties regarding applicable law, jurisdiction, and dispute resolution mechanisms. Differences in national legal systems may create conflicts of law and complicate the enforcement of contractual rights (Wibowo, 2024). This issue is particularly relevant in global e-commerce, where transactions occur across multiple legal frameworks without clear regulatory harmonization.

Moreover, the rapid development of emerging technologies, such as artificial intelligence and smart contracts, introduces new legal uncertainties. These technologies may automate the formation and execution of contracts, raising questions about legal responsibility, intent,

and the role of human intervention in contractual relationships (Pratama, 2022). Traditional civil law concepts may not be fully equipped to address these developments, necessitating legal adaptation and reform.

In conclusion, while digital contracts offer significant advantages in modern business transactions, their implementation is accompanied by various legal challenges related to consent, identity verification, system security, fairness, and jurisdiction. Addressing these challenges requires a comprehensive approach that integrates legal, technological, and regulatory measures. Strengthening the harmonization between the Civil Code and UU ITE, as well as developing more specific regulations, will be essential to ensure legal certainty and protection in the evolving digital economy.

The analysis of digital contracts under Indonesian law reveals a normative tension between the general validity requirements of the Civil Code and the technological mechanisms recognized under the Electronic Information and Transactions Law. Article 1320 of the Civil Code is built upon classical assumptions of contract formation, particularly the presence of identifiable parties, genuine consent, and a clear contractual object. By contrast, digital contracts are often formed through automated systems, standardized platform terms, click-wrap mechanisms, electronic signatures, and remote communication between parties who may never interact directly. This difference does not invalidate digital contracts, but it requires a more contextual interpretation of how traditional contract-law doctrines operate in electronic environments.

The most significant tension concerns the relationship between formal consent and substantive consent. In many digital business transactions, consent is formally expressed through clicking an acceptance button, completing an online order, or agreeing to platform terms. However, the doctrinal question is whether such electronic expressions always represent a genuine meeting of minds, especially when contractual terms are lengthy, non-negotiable, or not clearly presented to users. This creates a gap between formal legal recognition and the substantive quality of agreement. For business transactions, this issue matters because legal certainty cannot depend solely on the existence of an electronic record; it must also consider whether the contracting process provides sufficient clarity, accessibility, and fairness to the parties.

A further issue arises in authentication and evidentiary reliability. The Electronic Information and Transactions Law recognizes electronic documents and electronic signatures as valid legal instruments, but recognition alone does not fully resolve questions of identity verification, authority to contract, data integrity, and proof of consent. In conventional contracts, signatures and written documents often function as visible indicators of agreement. In digital contracts, these functions are distributed across electronic records, platform logs, digital signatures, timestamps, and authentication systems. This means that the enforceability of digital contracts depends not only on civil-law validity, but also on the reliability of the technological infrastructure used to prove that the agreement was properly formed.

Theoretically, this discussion shows that Indonesian civil law remains flexible enough to accommodate digital contracts without abandoning the core requirements of Article 1320. However, that flexibility should not be understood as automatic equivalence between conventional and digital contracting. Digital contracts require doctrinal adaptation, particularly in interpreting consent, capacity, object certainty, lawful cause, and evidentiary proof in technologically mediated transactions. Practically, this implies that businesses should design digital contracting systems that provide clear terms, reliable authentication, accessible records, and verifiable evidence of consent. Without these safeguards, digital contracts may be

formally valid but still vulnerable to disputes over fairness, identity, proof, and enforceability.

The findings of this study demonstrate that the fundamental principles of contract law under the Indonesian Civil Code remain applicable to digital contracts, but their implementation requires reinterpretation in response to technological developments. The principle of consensualism, which emphasizes the meeting of minds between parties, encounters practical challenges in digital environments where consent is often expressed through standardized mechanisms such as click-wrap agreements. Although such forms are legally recognized, concerns arise regarding whether the consent given truly reflects the free will and informed agreement of the parties (Rahman, 2023). This indicates that while formal consent may be present, its substantive quality may be questionable, thereby affecting the validity of digital contracts from a doctrinal perspective.

Furthermore, the recognition of electronic documents and electronic signatures under the UU ITE represents a significant step toward aligning legal norms with digital realities. The law adopts the principle of functional equivalence, ensuring that electronic agreements are treated as legally equivalent to conventional contracts as long as they fulfill the same legal functions (Nasution, 2019). However, this recognition does not eliminate the need to comply with the substantive requirements of Article 1320 of the Civil Code. As such, the validity of digital contracts depends on the harmonious interaction between these two legal frameworks, which in practice may give rise to interpretative challenges (Sari & Nugroho, 2021).

In addition, the study highlights that the practical implementation of digital contracts is closely linked to technological reliability and security. The effectiveness of electronic signatures, authentication systems, and digital platforms plays a crucial role in ensuring the integrity and enforceability of agreements. Without adequate safeguards, risks such as fraud, identity theft, and data manipulation may undermine legal certainty and weaken the evidentiary value of digital contracts (Hidayat, 2022). Therefore, legal validity in digital transactions cannot be separated from the technological infrastructure that supports it.

Another important issue concerns the imbalance of bargaining power in digital contracts, particularly in standard form agreements used in e-commerce and online services. In such cases, consumers often have limited ability to negotiate contract terms, which may lead to unfair provisions and weaken the principle of equality between parties (Fauzi, 2021). This situation raises the need for stronger consumer protection measures and regulatory intervention to ensure fairness in digital transactions.

Moreover, the cross-border nature of digital business transactions introduces additional complexities related to jurisdiction and applicable law. The absence of harmonized international regulations may result in legal uncertainty and difficulties in enforcing contractual rights across different legal systems (Wibowo, 2024). This suggests that national

legal frameworks, including the Civil Code and UU ITE, need to be complemented by international cooperation and legal harmonization efforts.

Overall, the discussion indicates that while digital contracts are legally recognized and widely used in business transactions, their effective implementation requires a dynamic interpretation of existing legal principles and the development of more comprehensive regulatory frameworks. The integration of civil law principles with technological advancements is essential to ensure legal certainty, fairness, and protection for all parties involved in digital business transactions.

Conclusion

This study concludes that digital contracts in business transactions are legally valid under Indonesian civil law as long as they fulfill the essential elements stipulated in Article 1320 of the Civil Code, namely consent, legal capacity, a certain object, and a lawful cause. The recognition of electronic documents and electronic signatures under Law Number 11 of 2008 as amended by Law Number 19 of 2016 (UU ITE) further strengthens the legal standing of digital contracts, demonstrating that Indonesian law has adapted to accommodate technological developments in business practices. However, the implementation of digital contracts presents several challenges, particularly in relation to the authenticity of consent, verification of parties' identities, security of electronic systems, and the imbalance of bargaining power in standard form contracts.

These findings imply that while the existing legal framework is sufficient to recognize digital contracts normatively, further legal refinement and harmonization between the Civil Code and UU ITE are necessary to address practical issues in digital transactions. Strengthening regulatory provisions, improving technological reliability, and enhancing consumer protection mechanisms are essential to ensure greater legal certainty and fairness. The main takeaway of this study is that the evolution of digital contracts requires not only legal recognition but also continuous adaptation of legal principles and regulatory frameworks to respond effectively to the dynamic nature of digital business environments.

Author contributions

Vivi Sylvia Purborini contributed as the primary author by conceptualizing the research, formulating the research problem, conducting the normative legal analysis, and drafting the manuscript. Suryaningsih contributed by providing supervision, reviewing and refining the legal analysis, validating the research framework, and improving the overall quality of the manuscript. Both authors have read and approved the final version of the manuscript.

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