

## The Evidentiary Value of Chat Logs as Electronic Evidence in Consignment Transactions

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### Keywords:

Agreements; Deposit Services;  
 Chat Logs; Digital Forensics

### Abstract

This study aims to analyse the validity of agreements in social media-based deposit service transactions and to formulate strategies to strengthen the evidentiary power of chat logs within the realm of civil procedure law. The research method employed is normative juridical, through a combination of legislative and conceptual approaches. The results of the study reveal two main findings. First, the agreement on the deposit service transaction has met the qualifications for the validity of an agreement as stipulated in Article 1320 of the Civil Code, whereby both subjective and objective requirements are satisfied through the offer and acceptance mechanism, verification of digital capacity and financial independence, certainty of the object via invoice, and the existence of good faith on the part of business actors. Second, the evidentiary power of chat logs serves only as preliminary evidence, as it is vulnerable to data manipulation and denial. Therefore, the evidentiary power of electronic documents must be transformed into valid, strong, and binding evidence through the application of digital forensics focusing on digital metadata examination. Metadata examination is applied adaptively through three conditions: extraction of the phone's local database, analysis of thumbcaches and browser artifacts, and cloud backup file downloads and server network log searches. Validation of the authenticity of metadata through hash and timestamp values produces the highest degree of material truth that is resistant to manipulation, in order to meet the requirements for document integrity pursuant to Article 6 of the ITE Law.

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## INTRODUCTION

The development of information and communication technology has revolutionised the way people approach transactions, shifting from conventional methods to digital systems. Digital transaction activities are essentially a form of legal agreement between one legal subject and another, giving rise to rights and obligations, whereby the processes of offering, receiving, and approval are carried out through electronic systems such as websites, applications, and other digital communication media. Modern civil law, through the principle of consensualism in Article 1320 of the Civil Code, provides space for parties to bind themselves, where an agreement is born not when ink touches paper, but at the moment a consensus is reached, provided that the legal conditions of the agreement — namely consent, legal capacity, a certain object, and a lawful cause — are fulfilled. This legal foundation is further strengthened by Law Number 1 of 2024, which

has recognised electronic information and electronic documents as valid legal evidence, thereby providing a legal umbrella for every digital transaction in Indonesia.

However, the reality on the ground presents a contrasting phenomenon: technological efficiency has given rise to deposit service businesses (*jastip*). Communication and agreements in such transactions — ranging from offers, ordering of goods, price negotiations, and payment confirmations, to delivery arrangements — are conducted almost entirely through social media or chat applications such as WhatsApp, Instagram DMs, TikTok, and various marketplaces, producing digital footprints in the form of chat logs. Deposit service providers and consumers tend to rely on efficiency and personal trust in transactions without equipping themselves with preventive legal protection.

A legal gap arises when digital trust clashes with the realities of evidence in court (Kasper dan Laurits 2016). Chat logs function as a risk mitigation instrument in the event of order or payment denial by one of the parties (Andri et al., 2022). This is based on a legal construction that places electronic documents as part of the expanded category of written evidence in civil procedure law, provided that formal and material requirements are met (Budianto et al., 2024). However, in practice, the status of chat logs is often difficult to substantiate due to their vulnerability to manipulation, deletion, or denial of authenticity. As a result, a considerable disparity exists between the ease of conducting transactions and the complexity of proving the validity of agreements when disputes arise (Mik 2017; Macaulay 2020; Wibowo *et al.* 2021).

In Indonesia, the specific issue of social media-based deposit service transactions, commonly known as *jastip*, exemplifies this challenge. These transactions rely on chat applications such as WhatsApp, Instagram, and TikTok, where the agreement lifecycle — including offers, acceptance, payments, and delivery — is entirely digital. Despite the routine nature of these interactions, legal practitioners face difficulties in verifying the authenticity and integrity of chat logs when disputes arise (Kalverkämper dan Baiona 2025).

Previous research has examined electronic contracts and digital evidence in civil law contexts. Andri et al. (2022) highlighted the vulnerability of chat logs to manipulation, emphasising the need for digital forensic techniques. Budianto et al. (2024) discussed the integration of electronic documents into formal evidence structures. While these studies clarify legal foundations, a gap remains regarding practical strategies to transform chat logs from preliminary to legally binding evidence in *jastip* transactions.

This research addresses this gap by analysing the validity of social media-based agreements in deposit services and examining methods to strengthen their evidentiary power. Unlike earlier studies that focused on theoretical recognition, this study integrates normative legal research with digital forensic practices, providing an applied perspective on ensuring legal certainty and mitigating disputes in electronic commerce.

The urgency of this study is underscored by the growing reliance on digital platforms for commerce, where millions of daily transactions generate chat logs that can serve as potential evidence. Ensuring that these digital records meet standards of integrity, authenticity, and non-

repudiation is essential to protecting both consumers and service providers while supporting efficient judicial processes.

Research novelty emerges from the application of adaptive digital forensic strategies, including local database extraction, analysis of thumbcaches and browser artifacts, and cloud backup verification. This layered approach enables the practical transformation of chat logs into strong evidence, bridging the gap between conventional legal recognition and the technical realities of digital transactions.

The purpose of this study is twofold: first, to evaluate the compliance of jastip agreements with Article 1320 of the Civil Code; and second, to explore procedures that elevate the evidentiary value of chat logs in civil disputes under Law No. 1 of 2024 on Information and Electronic Transactions. In doing so, the research offers guidelines for legal practitioners and digital service providers on safeguarding electronic agreements against manipulation and denial.

The research contribution lies in its integration of legal analysis with forensic methodology, providing a comprehensive framework for validating electronic evidence in real-world commercial settings. This contributes to both academic discourse on digital contract law and the practical implementation of dispute prevention strategies in online marketplaces. The objectives are clearly defined: to assess the legal validity of social media-based agreements, to identify vulnerabilities in chat log evidence, and to recommend forensic procedures for enhancing evidentiary strength. The anticipated benefit is a strengthened digital commerce ecosystem in which parties can confidently rely on chat-based agreements, thereby reducing litigation risk and fostering trust in digital transactions.

## **METHOD**

This research employs a normative legal research design, integrating both statutory and conceptual approaches to examine the validity of social media-based deposit service agreements and the evidentiary strength of chat logs. The population of this study consists of all digital transactions conducted via jastip platforms in Indonesia, while the sample is selected purposively, focusing on prominent service providers and their consumer interactions documented through social media and chat applications. Sampling techniques involve non-probability purposive selection, targeting transactions that are representative of typical offer, acceptance, and delivery patterns. Research instruments include semi-structured interview guides for legal experts and business actors, document analysis sheets for primary legal sources, and digital forensic protocols to validate chat log evidence.

To ensure validity and reliability, triangulation methods are applied across data sources. The legal documents, statutory regulations, and court decisions are cross-verified with interviews and digital transaction records to confirm consistency. Expert judgment from civil law academics validates the normative interpretations, while digital forensic procedures, such as metadata extraction and hash verification, provide objective confirmation of chat log authenticity. Reliability is further reinforced through repeated observation and verification of digital evidence across multiple transactions, ensuring reproducibility of findings under the defined procedures.

Data collection combines documentary analysis, semi-structured interviews, and digital evidence acquisition. The procedure involves identifying relevant legal materials, reviewing court decisions and statutory frameworks, and conducting interviews with selected legal scholars and deposit service actors. For digital evidence, forensic software tools are employed to extract, analyze, and validate chat logs, including SQLite database viewers, hash calculators, and timestamp verification utilities. Data analysis is qualitative and descriptive, using deductive reasoning to move from general legal principles to specific findings, while digital evidence is interpreted through procedural verification to establish legal credibility and evidentiary strength in civil procedures.

## **RESULTS AND DISCUSSION**

### **The Validity of Social Media-Based Agreements on Deposit Service Transactions based on Article 1320 of the Civil Code**

Deposit services are a business model that offers services to purchase goods in locations that are not affordable by consumers for certain rewards (Sinaga & Fenetiruma, 2025). The popularity of deposit services (jastip) has revolutionized the way people view transactions, from conventional methods to digital systems. Activities in digital transactions, in essence, are a form of electronic agreement in the form of legal bonds between one legal subject and another legal subject to give rise to rights and obligations, where the process of offering, receiving, and agreeing is almost entirely carried out through social media and chat applications that produce digital footprints in the form of chat logs (Anggoro et al., 2025). Furthermore, the legal subjects in the deposit service agreement consist of individuals (jastiper and consumer) and parties who provide the object of the agreement in the form of physical products, such as clothing, food, bags, accessories, and medicines. The validity of each agreement, including the deposit service agreement, must meet the four valid conditions of the agreement as stipulated in Article 1320 of the Civil Code (Burgerlijk Wetboek).

The first condition is their agreement that binds them. An agreement is the conformity of a statement of intent between one or more parties and another party (Anggoro et al., 2025). The agreement mechanism is based on the process of intersection between the statement of the bidder's will (offerte) and the acceptance party's statement (acceptatie). Referring to the practical reality, the offer stage is manifested when the service offers to promote goods through a live streaming session on social media by including the admin contact or through catalog uploads on Instagram for consumers who miss the live streaming session or are looking for goods that are almost out of date (last day). The action is categorized as an invitation to transact (*invitatio ad offerendum*) because it contains specific information about the object of the goods and the nominal price. The acceptance stage occurs when the response to the offer is followed by the active action of the consumer to contact the admin through a chat application, such as WhatsApp. Doctrinally, the agreement in the agreement does not require a formal form, so expressions of will such as "Yes", "Okay", "Agree", and even the Thumbs Emoji recorded in the chat can be considered a form of agreement between the parties (Aufiya, 2026). Deal validation is strengthened through the

mechanism of filling in identity data, order format and down payment. The consumer's willingness to agree to the Terms & Conditions, including the obligation of deposit, the description of the deposit service fee, the delivery mechanism, and the no-cancel clause after the goods have been spent, proves that the agreement was born without any defect in will (*wilsgebreke*), which was triggered by elements of fraud (*bedrog*), coercion (*dwang*), or deviation (*dwaling*). The correlation between the theory of offer and acceptance through chat in deposit service transactions shows that the subjective conditions regarding the agreement have been fully fulfilled according to the rules of civil law. Electronic transactions in the practice of deposit services can be qualified as legal acts based on electronic agreements or other contractual forms that represent the agreement of the parties (Andri et al., 2022).

The second condition is the ability to make an alliance. The legal subject involved must be a party who has legal authority, is an adult and is not under the supervision of the law (Rohendi, 2025). Indicators of the competence of the parties are identified through digital capacity and financial independence. A person's ability to manage social media accounts and make down payment instructions through bank transfers independently shows the capacity that is characteristic of capable legal subjects. However, a chat agreement will be much stronger if it is followed by identity verification, for example one of the parties sends a photo of the ID card or confirms the recorded voice/video call. This ensures that the legal subject in Article 1320 of the Civil Code is indeed the person concerned and has full capacity (Aufiya, 2026).

The third condition is a certain subject matter. The objects in the agreement are goods of a determinable type, including but not limited to goods that will only exist in the future as a result of the performance of the agreement. The certainty of the object of the deposit service agreement is determined specifically based on brand information, variants, and nominal prices listed on social media platforms and is strengthened through reconfirmation of orders for settlement or delivery of invoices to consumers when the goods are available (Owner of Jasa Titip Jullens.co, 2026). The invoice serves as a final confirmation document that redetails the buyer's name, details of the goods spent, the total cost of paying off the goods, the destination address, and the choice of shipping methods available through regular and third-party expeditions such as Marketplace.

The fourth condition is a halal cause. The substance of the agreement must not clash with applicable legal regulations, moral norms, public order, and the principles of propriety and customs accepted by the wider community. The application of halal causation can be seen from the commitment of deposit service business actors in maintaining the legality and applicable business ethics standards. Consistency in verifying and informing the halal status of products and the disclosure of payment details that have included deposit service fees or other operational costs show the principle of full compliance with regulations and public habits that pay close attention to the aspect of religiosity in the use of products (Owner of Deposit Services Jullens.co, 2026).

## **The Evidentiary Power of Chat Logs as Electronic Evidence in Agreements on Deposit Service Transactions based on Law No. 1 of 2024 concerning Information and Electronic Transactions (ITE Law)**

Electronic proof is the process of presenting and assessing digital-based evidence — such as documents or electronic information — in a legal case, particularly in the civil realm (Anggoro et al., 2025). In the operation of deposit services, chat logs or chat history serve as the primary reference in the event of a dispute between the two parties, such as disagreements regarding the amount of a down payment that has been made, the status of a payment, or instances where the consumer denies having placed an order. The legal status of chat logs is a logical consequence of the legal system's adaptation to technological developments, whereby legal recognition of the validity of digital evidence in Indonesia has been affirmed in Law of the Republic of Indonesia Number 1 of 2024, Article 5 paragraphs (1) and (2), concerning Information and Electronic Transactions.

The juridical legitimacy regarding the evidentiary power of chat logs in civil law is further strengthened through Decision Number 629/Pdt.G/2020/PN JKT.TU, 2021. The presiding judge acknowledged the existence of a pre-order sale and purchase agreement conducted through Instagram and online communication as the basis for a finding of default. On the other hand, Decision Number 105/Pdt.G/2022/PN KIn, 2022 emphasises that the authenticity of electronic supporting evidence is highly decisive in clarifying the rights and obligations of the parties to an agreement. The integration of these two decisions reflects a judicial tendency to no longer disregard the validity of electronic documents, provided that the standard of information integrity under Article 6 of the ITE Law is met.

The evidentiary strength of chat logs in civil procedure law in Indonesia rests on the principle of *freies Beweiswürdigung* (free assessment of evidence), whereby judges are not bound by the order or form of evidence, but must consider legal logic and practical experience, the consistency of the evidence with one another, and whether the evidence demonstrates a causal connection to the subject matter. Consequently, in the context of informal deposit service agreements, the status of chat logs is often difficult to substantiate and is frequently categorised as preliminary or supplementary evidence, due to its vulnerability to manipulation, deletion, claims of account takeover by third parties, or denial of authenticity. The obstacles faced by business actors lie in the technical challenges of proving the originality and authenticity of digital evidence. In contrast to a notarial deed, which carries perfect evidentiary power externally, formally, and materially, the validity of chat logs must satisfy the functional criteria stipulated in Article 6 of the ITE Law, namely that the information must be accessible, displayable, guaranteed to be intact, and accountable in explaining a given situation.

The burden of proof in electronic transactions rests in principle on the business actor; however, liability for losses may be excluded if the business actor is able to prove that the fault lies entirely with the consumer (Andri et al., 2022). Denying electronic transactions on the pretext of account hacking is a common tactic in non-repudiation disputes. If a transaction is made through a verified account, such a denial cannot be sustained without a strong legal argument. The denying

party bears a legal obligation to prove that the account was under the unauthorised control of another party. Pursuant to Government Regulation No. 71 of 2019 concerning the Implementation of Electronic Systems and Transactions, tracking of device access logs may be conducted to test the validity of such a rebuttal. The failure of the denying party to present digital evidence of hacking has implications for the burden of proof, as the judge will tend to favour the party holding the more consistent electronic data (Komalasari dan Mustafa 2023; Ferreira dan Gromova 2024; Adinda *et al.* 2025).

The transformation of chat logs in applications such as WhatsApp from preliminary evidence into strong, valid, and binding evidence relies heavily on proving the integrity of the metadata, rather than merely presenting conventional visual displays such as screenshots or printed chat logs, which are secondary and vulnerable to manipulation (Aufiya, 2026). In civil proceedings involving electronic evidence, Digital Forensic Imaging is required, which depends on the digital metadata as the technical data underlying the visual display. To map and test the validity of metadata from chat logs in deposit service (jastip) transactions, investigators apply a tiered and adaptive evidence collection strategy based on three chronological conditions encountered in the field (Ayobami 2024). Under ideal conditions, when the hardware is in the hands of the investigator, the chain of custody is secured through manual extraction (live acquisition) as initial visual evidence, followed by logical extraction to read the SQLite relational database (msgstore.db or ChatStorage.sqlite) in its entirety using a forensic viewer (Margono, 2025). Furthermore, if intentional data deletion is identified, indicating bad faith, the investigator conducts physical extraction to retrieve hidden encryption key files and decrypt the data through the file carving method, as well as isolating the timestamp server to reconstruct the chronology of events in an absolute and objective manner (Margono, 2025).

However, if the mobile device is concealed or completely damaged, the evidence collection strategy shifts to secondary and emergency scenarios through an off-device forensics approach. In secondary conditions where jastip transactions were accessed via a computer, investigators perform visual reconstruction by extracting Windows thumbcache files to recover images of goods or purchase receipts, as well as examining browser artifacts — such as IndexedDB and cookies — on WhatsApp Web to establish the transfer of digital data on the date in dispute. Through the analysis of prefetch files, shim caches, and system logs, precise timestamps and local IP addresses can be retrieved to counter common denial tactics (Margono, 2025). Meanwhile, in emergency situations where physical devices are lost or stolen, digital metadata proof relies on downloading official encrypted backup files through cloud computing channels (Cloud Forensic Extraction via iCloud or Google Drive), crawling public social media data as circumstantial evidence of the commercial identity of the parties involved, and submitting a Law Enforcement Request to Meta as the parent company of WhatsApp to obtain network transaction logs (metadata communications), which contain records of telephone numbers, universal timestamps, and IP addresses as definitive evidence of the existence of a legal relationship between the parties (Margono, 2025).

Juridically, the comparative evidentiary value between the external physical display of chat logs and digital metadata chat logs can be measured objectively through four evidentiary indicators at trial. In terms of conversation content and transaction time, the external physical display is weak, as it contains only surface-level text and a local clock that is easily manipulated, whereas digital metadata presents the original data records (record ID) in an SQLite table and stores millisecond Epoch/UNIX timestamps synchronised directly via satellite. Similarly, in terms of sender identity and evidentiary integrity, the physical screen display is easily denied, as a contact's name can be freely altered, whereas digital metadata locks a unique WhatsApp ID (JID) bound to the SIM card and is protected by a hash value (MD5/SHA-256) serving as a tamper-proof digital fingerprint of the file. Based on these forensic parameters, it can be concluded that the physical display of chat logs occupies only the position of supplementary evidence requiring further validation, whereas digital metadata chat logs obtained through forensic methods constitute primary evidence carrying the highest degree of material truth, as they successfully satisfy the qualifications for electronic document integrity — capable of mitigating the risk of fraud, ensuring legal certainty, and simultaneously providing comprehensive legal protection for the deposit service ecosystem founded on digital trust.

## **CONCLUSION**

The study concludes that social media-based deposit service agreements (jastip) in Indonesia are legally valid when they meet the conditions outlined in Article 1320 of the Civil Code, including mutual agreement, competent parties, certain subject matter, and a lawful purpose. Agreements formed through chat applications such as WhatsApp, Instagram, and TikTok generate digital footprints that can serve as legal evidence. However, the evidentiary strength of these chat logs depends on their integrity and authenticity, which can be ensured through digital forensic methods that validate metadata, timestamps, and cryptographic hash values. This process elevates preliminary electronic evidence into legally binding proof, providing both consumers and service providers with enhanced legal certainty and protection in digital transactions.

For future research, it is recommended to explore the integration of blockchain or distributed ledger technology to further strengthen the security and traceability of digital agreements. Additionally, comparative studies across different jurisdictions could provide insights into best practices for recognising electronic evidence in civil law systems. Researchers may also examine user behaviour and legal literacy among consumers and service providers to identify educational strategies that minimise disputes and enhance compliance with digital transaction regulations. Such studies would extend the practical applications of this research and contribute to the development of more resilient digital commerce ecosystems.

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