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Legal Protection of Electronic Fund Transfer (EFT) In Indonesia: An Analysis of the Regulatory Framework and Legal Issues in Electronic Transactions

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ABSTRACT: The rapid development of information and communication technology has transformed financial transaction systems through the implementation of Electronic Fund Transfer (EFT). This system enables fund transfers to be conducted quickly, efficiently, and in real time without direct physical interaction. As an essential component of the digital economy, EFT supports digital banking, fintech services, and e-commerce transactions. However, its implementation also creates various legal challenges, including issues related to data security, system reliability, legal liability, and consumer protection. Risks may arise from technical failures as well as cybercrimes such as fraud, unauthorized access, and misuse of personal data. This study aims to analyze the concept and legal framework of EFT in Indonesia and identify legal issues arising from its implementation. Using a normative juridical method with statutory and conceptual approaches, the study finds that existing regulations remain fragmented and insufficiently integrated. Therefore, regulatory harmonization and stronger legal protection are needed to ensure legal certainty and public trust in digital financial transactions.

KEYWORDS: Electronic Fund Transfer, Digital Transactions, Legal Protection

I. INTRODUCTION

The development of information and communication technology in the current digital era has brought about significant changes in various aspects of social life, particularly in the economic and financial sectors. Digitalization is no longer merely a complement to economic activities but has become an integral component shaping modern economic interactions. One of the most tangible changes can be observed in the transformation of financial transaction systems from conventional mechanisms toward electronic systems that are faster, more convenient, and more efficient. In this context, Electronic Fund Transfer (EFT) has emerged as one of the significant innovations representing the modernization of payment systems. EFT enables the transfer of funds to be carried out electronically through computer networks without requiring the physical presence of the sender and recipient. Transactions that previously required a relatively long period of time can now be completed within seconds, and in some cases, in real time. This development demonstrates the extent to which technology has been able to eliminate various barriers in financial transactions.

The development of EFT cannot be separated from the growing demand among the public for speed and convenience in conducting transactions. Modern economic activities, such as e-commerce, digital banking, and technology-based financial services (fintech), rely heavily on efficient electronic fund transfer systems. In practice, the public has become increasingly accustomed to using mobile banking, internet banking, and digital wallets as primary means of conducting day-to-day financial transactions. Nevertheless, behind the convenience offered by Electronic Fund Transfer, various complex legal issues have emerged. The electronic systems underlying EFT possess characteristics that differ from those of conventional transaction systems. Transactions are no longer supported by physical documents but rather by digital data stored within electronic systems. This creates particular challenges, especially with regard to evidentiary issues, transaction security, and the validity of electronic transactions. According to Edmon Makarim, the development of information technology has given rise to a new form of legal relationship that is no longer based on the physical presence of the parties but rather on electronic systems that represent the intentions of the parties.[1]In this context, the law is required to adapt to these developments in order to remain relevant in regulating legal relationships that continue to evolve within society.

The development of Electronic Fund Transfer has also been accompanied by an increase in the risks of technology-based crimes or cybercrime. The convenience of conducting electronic transactions is often exploited by irresponsible parties to engage in harmful

[1] Edmon Makarim, Pengantar Hukum Telematika [Introduction to Telematics Law], Jakarta: RajaGrafindo, p. 25.

activities, such as fraud, unauthorized access to bank accounts, and misuse of personal data. Munir Fuady argues that the development of modern financial systems is consistently accompanied by the emergence of new forms of crime that become increasingly complex as technology advances.[2] This demonstrates that every technological innovation inevitably presents two inseparable dimensions, namely benefits and risks. Another equally important issue concerns legal liability in Electronic Fund Transfer transactions. In practice, cases involving erroneous fund transfers, unauthorized transactions, or system failures may result in financial losses to users. Under such circumstances, questions arise as to which party should bear legal responsibility, whether the user, the bank, or the electronic system provider. The uncertainty surrounding the allocation of liability demonstrates that traditional legal concepts have not yet fully accommodated the complexity of electronic transactions.[3]

In Indonesia, Electronic Fund Transfer is regulated under several laws and regulations. Law Number 3 of 2011 concerning Fund Transfers serves as the principal legal basis governing fund transfer mechanisms, including the rights and obligations of the parties involved.[4] In addition, the Electronic Information and Transactions Law (EIT Law) recognizes electronic documents as valid forms of evidence under Indonesian law.[5] Nevertheless, upon closer examination, these regulations have not yet been fully integrated and remain largely sectoral in nature. This indicates the existence of a gap between technological development and the readiness of the legal system to respond to such developments. The law, which should function as an instrument for providing legal certainty and protection, often lags behind the rapid pace of technological advancement. According to Peter Mahmud Marzuki, the law should be capable of adapting to developments within society in order to remain effective in regulating social life. Based on the foregoing, it can be understood that Electronic Fund Transfer is not merely a technological phenomenon but also a legal phenomenon that requires serious attention. Therefore, it is important to conduct a more in-depth examination of the concept, regulatory framework, and legal issues arising in the implementation of Electronic Fund Transfer in Indonesia. Based on the background described above, this study aims to analyze the concept and characteristics of Electronic Fund Transfer within electronic transaction systems, examine the legal framework governing Electronic Fund Transfer in Indonesia, and identify the legal issues arising in the practice of Electronic Fund Transfer.[6]

II. MATERIALS AND METHODS

This study employs a normative juridical research method, namely a legal research method that focuses on examining applicable legal norms and regulations. The approaches used in this study are the statutory approach and the conceptual approach. The legal materials consist of primary legal materials in the form of laws and regulations, as well as secondary legal materials comprising relevant books, academic journals, and legal literature. The analysis is conducted using a descriptive-analytical method, namely by describing the legal phenomena occurring in practice and subsequently analyzing them in order to obtain comprehensive conclusions.[7]

III. RESULTS AND DISCUSSIONS

A. The Concept, Characteristics, and Evolution of Electronic Fund Transfer in Modern Transaction Systems

The development of Electronic Fund Transfer (EFT) cannot be separated from the dynamics of the information technology revolution, which has significantly transformed financial transaction systems throughout the world. This transformation is essentially a logical consequence of the modern society's need for transaction systems that are fast, efficient, and capable of facilitating cross-border transactions without significant geographical barriers. In this context, EFT has emerged as a mechanism that bridges these needs by providing an electronic-based and digitally integrated fund transfer system. Conceptually, Electronic Fund Transfer may be understood as the process of transferring funds between accounts through an electronic system based on digital instructions issued by the sender. In this process, banks or payment system providers act as intermediaries that process such instructions automatically through computer networks. The absence of physical instruments, such as checks or cash, constitutes one of the principal characteristics distinguishing EFT from conventional payment systems.

Upon closer examination, EFT essentially remains within the framework of contractual obligations as governed by civil law. In other words, although the medium through which the transaction is conducted has changed, the legal relationship between the parties

[2] Munir Fuady, Hukum Perbankan Modern [Modern Banking Law], Bandung: Citra Aditya Bakti, p. 52.

[3] Andi Muhammad Aidil, Muh Arya Darmawan, and Summa, "Analisis Perlindungan Hukum dalam Transaksi Transfer Melalui Aplikasi Dana" [Analysis of Legal Protection in Transfer Transactions through the DANA Application], Jurnal Kajian Hukum dan Kebijakan Publik, Vol. 2, No. 1, 2024.

[4] Law Number 3 of 2011 concerning Fund Transfers.

[5] Law Number 11 of 2008 concerning Electronic Information and Transactions.

[6] Peter Mahmud Marzuki, Penelitian Hukum [Legal Research], Jakarta: Kencana, p. 35.

[7] Ibid., p. 40.

remains fundamentally based on their agreement. In this regard, the requirements for the validity of an agreement as stipulated in Article 1320 of the Indonesian Civil Code (Kitab Undang-Undang Hukum Perdata or KUHPerdata) remain a principal reference in determining the validity of a transaction.[8] Accordingly, technology does not eliminate fundamental legal principles but merely transforms the mechanism through which those principles are implemented. Nevertheless, the characteristics of Electronic Fund Transfer present particular challenges from a legal perspective. One of the principal characteristics of EFT is its real-time nature, whereby transactions can be completed within a matter of seconds. Such speed provides significant advantages in terms of efficiency; however, it may simultaneously reduce the scope for human control over the transaction process. Under certain circumstances, system errors may have an immediate impact without providing an adequate opportunity for correction before the transaction is completed. Furthermore, the borderless nature of EFT is another important aspect that requires consideration. Transactions may be conducted without regard to national territorial boundaries and may therefore involve multiple jurisdictions. This condition has the potential to give rise to conflicts of law, particularly with regard to determining the applicable law and the appropriate forum for dispute resolution. Sutan Remy Sjahdeini argues that the development of the global financial system requires an international legal approach because financial transactions are no longer confined by national borders.[9] Within the context of the digital economy, EFT occupies a highly strategic position. The system serves as a backbone for various economic activities, particularly e-commerce and digital financial services. Without an effective electronic fund transfer system, digital transactions could not operate optimally. Abdul Halim Barkatullah emphasizes that electronic payment systems constitute one of the principal pillars supporting the continuity of modern electronic transactions.[10]

Accordingly, Electronic Fund Transfer should not merely be regarded as a technical instrument but also as a legal institution that establishes new patterns of economic relationships. Therefore, a legal approach to EFT should not be limited to a purely normative perspective but must also take into consideration technological developments and the social dynamics occurring within society.

B. The Legal Framework Governing Electronic Fund Transfer in Indonesia: Bridging Regulation and Practice

Within the context of national law, the regulation of Electronic Fund Transfer in Indonesia is governed by various laws and regulations. Law Number 3 of 2011 concerning Fund Transfers serves as the principal legal basis governing the implementation of fund transfers, including the rights and obligations of the parties involved in such transactions. This law provides a relatively clear legal framework, particularly with regard to the liability of service providers. Fund transfer system providers are required to ensure the security, reliability, and accuracy of transaction execution. This demonstrates that the law places substantial responsibility on service providers, given their position and control over the systems through which transactions are processed. In practice, however, this regulatory framework continues to face various limitations. One of the primary concerns is the fragmented and dispersed nature of the regulatory framework across different laws and regulations. In addition to the Fund Transfer Law, electronic transactions are also governed by the Electronic Information and Transactions Law (EIT Law), which recognizes electronic documents as legally valid forms of evidence. Although these two laws serve complementary functions, inconsistencies and regulatory overlaps may arise in their implementation.[11][1] This condition indicates that the existing legal framework has not yet been fully integrated in regulating electronic transactions in a comprehensive manner.

The rapid development of financial technology (fintech) also presents a particular challenge to the legal system. Numerous new innovations emerge before specific regulations governing them have been established. As a result, the law tends to operate reactively, whereby regulatory measures are introduced only after legal or practical problems have arisen. According to Peter Mahmud Marzuki, an ideal legal system should not merely be reactive but should also possess a predictive capacity in responding to changes within society. In this context, it can be argued that a gap exists between technological development and the readiness of the legal framework. Existing regulations frequently lag behind developments in practice. Therefore, regulatory harmonization is necessary to establish a more integrated legal framework and provide greater legal certainty for the parties involved in Electronic Fund Transfer transactions.[12]

[8] Article 1320 of the Indonesian Civil Code (Kitab Undang-Undang Hukum Perdata).

[9] Sutan Remy Sjahdeini, Perbankan Islam [Islamic Banking], Jakarta: Kencana, p. 89.

[10] Abdul Halim Barkatullah, Hukum Transaksi Elektronik [Electronic Transaction Law], Bandung: Nusa Media, p. 45.

[11] Satjipto Rahardjo, Ilmu Hukum [The Science of Law], Bandung: Citra Aditya Bakti, 2014, p. 208.

[12] Rahmat Alamsyah, Sukarno, and Irma Istihara Zain, "Perlindungan Hukum Terhadap Konsumen Dalam Transaksi Digital Melalui Aplikasi Dana Berdasarkan Hukum Positif di Indonesia" [Legal Protection of Consumers in Digital Transactions through the DANA Application under Positive Law in Indonesia], Unizar Recht Journal, Vol. 3, No. 3, 2024.

C. Legal Challenges and Risks in the Implementation of Electronic Fund Transfer

As the use of Electronic Fund Transfer continues to increase, various legal issues have also become increasingly complex and diverse. One of the most prominent issues is the growing prevalence of technology-based crimes, or electronic transfer crimes. Such crimes have emerged as a consequence of the use of digital systems that are vulnerable to misuse. Common forms of such crimes include phishing, hacking, and the misuse of personal data.[13] Perpetrators typically exploit system vulnerabilities or users' lack of awareness to gain unauthorized access to financial information.[14] Barda Nawawi Arief argues that cybercrime constitutes a form of modern crime characterized by a high degree of complexity because it is perpetrated through continuously evolving technologies. The anonymous and transnational nature of these crimes makes them difficult to address through conventional legal mechanisms. Perpetrators may commit offenses from jurisdictions different from those in which their victims are located, thereby requiring cross-border cooperation in law enforcement. Beyond criminal activities, the issue of legal liability is also of critical importance.[15] In EFT transactions, it is often difficult to determine which party should be held responsible for losses incurred. Under civil law, liability is generally based on fault. However, within electronic systems, establishing and proving such fault can often be difficult. Under certain circumstances, the application of a strict liability approach has begun to be considered, particularly in relation to system operators that exercise substantial control over the underlying technology. This demonstrates that traditional legal concepts need to evolve in order to accommodate the distinctive characteristics of electronic transactions.

Another equally important issue concerns consumer protection. In many cases, consumers occupy a weaker position due to their limited access to information and their insufficient understanding of digital systems.[16] Abdul Halim Barkatullah emphasizes that consumer protection in electronic transactions should be given primary consideration because consumers are among the parties most vulnerable to losses.[17] In addition, evidentiary issues in EFT disputes present another significant challenge. Although the EIT Law recognizes electronic documents as legally valid evidence, practical difficulties remain in verifying the authenticity and integrity of electronic data. Addressing these challenges requires adequate technological infrastructure as well as sufficient technical and legal understanding among law enforcement authorities.[18] Accordingly, Electronic Fund Transfer should not be viewed solely as a mechanism that provides convenience and efficiency but also as a system that entails significant legal and technological risks. Therefore, a more comprehensive and adaptive legal approach is required to ensure that technological development proceeds in a manner that remains balanced with adequate legal protection.

IV. CONCLUSIONS

Based on the foregoing discussion, it can be understood that Electronic Fund Transfer (EFT) constitutes one of the most tangible manifestations of digital transformation in modern financial transaction systems. The emergence of EFT has not merely facilitated the process of transferring funds but has also fundamentally transformed the manner in which legal relationships are established within financial transactions. Transactions that were previously conducted through physical interactions have gradually shifted toward electronic system-based interactions that are automated, rapid, and capable of transcending geographical boundaries. From a legal perspective, although Electronic Fund Transfer is conducted through digital media, it remains fundamentally subject to the principles of contractual obligations as governed by civil law. This demonstrates that technological development does not eliminate the role of law but instead requires the legal system to adapt to changes in the form and characteristics of transactions. Nevertheless, the real-time, automated, and geographically unrestricted characteristics of EFT have created new complexities that cannot be fully addressed by traditional legal concepts.

From a regulatory perspective, Indonesia has established a normative legal foundation through Law Number 3 of 2011 concerning Fund Transfers and the Electronic Information and Transactions Law. Nevertheless, these regulations have not yet

[13] Barda Nawawi Arief, Tindak Pidana Mayantara: Perkembangan Kajian Cyber Crime di Indonesia [Cybercrime: Developments in Cybercrime Studies in Indonesia], Jakarta: RajaGrafindo Persada, 2006, p. 37.

[14] Maskun, Kejahatan Siber (Cyber Crime): Suatu Pengantar [Cybercrime: An Introduction], Jakarta: Kencana, 2013, p. 91.

[15] Sendi Sanjaya, "Tanggung Jawab Hukum Perdata dalam Transaksi Digital: Analisis Kontrak Elektronik, Platform Marketplace, dan Perlindungan Konsumen di Indonesia" [Civil Liability in Digital Transactions: An Analysis of Electronic Contracts, Marketplace Platforms, and Consumer Protection in Indonesia], Berajah Journal, Vol. 5, No. 7, 2026.

[16] Suwari Akhmaddhian and Asri Agustiwi, "Perlindungan Hukum Terhadap Konsumen dalam Transaksi Jual Beli Secara Elektronik di Indonesia" [Legal Protection of Consumers in Electronic Sale and Purchase Transactions in Indonesia], Unifikasi: Jurnal Ilmu Hukum, Vol. 3, No. 2, 2016.

[17] Abdul Halim Barkatullah, as cited in the relevant literature on consumer protection in electronic transactions.

[18] Article 5 paragraph (1) of Law Number 11 of 2008, as amended by Law Number 1 of 2024 concerning Electronic Information and Transactions.

succeeded in establishing a fully integrated and comprehensive legal framework. This is reflected in the continuing existence of regulatory overlaps, uncertainty regarding the allocation of legal liability, and the suboptimal provision of legal protection for users of electronic fund transfer systems. Legal issues arising in the practice of Electronic Fund Transfer have also become increasingly complex alongside the growing use of digital technology in the financial sector. The emergence of various forms of cybercrime, system failures, and misuse of personal data demonstrates that EFT not only provides convenience and efficiency but also entails significant risks. In this context, the issue of legal liability becomes particularly crucial, especially in determining the party responsible for losses arising from electronic fund transfer transactions.

Furthermore, consumers remain in a relatively vulnerable position within electronic transaction systems, both in terms of their understanding of digital systems and their ability to protect themselves from potential risks. This indicates that consumer protection in Electronic Fund Transfer transactions has not yet been implemented optimally. At the same time, evidentiary challenges in electronic transactions constitute another significant issue in law enforcement, given the nature of digital data, which requires specialized technical approaches to establish its authenticity and integrity. Accordingly, Electronic Fund Transfer may be regarded as a complex legal phenomenon that requires not only normative regulation but also a more adaptive and progressive legal approach. Law can no longer function merely as an instrument of control; it must also serve as an instrument capable of accommodating technological developments while simultaneously ensuring adequate legal protection for society. The development of a harmonized, responsive, and adaptive legal framework is therefore essential to maintain a balance between technological innovation, transaction efficiency, legal certainty, and the protection of the rights and interests of users.

V. ACKNOWLEDGMENT

Based on the foregoing conclusions, several recommendations may be proposed for the development of the legal framework governing Electronic Fund Transfer in Indonesia. First, regulatory harmonization and integration are necessary in regulating Electronic Fund Transfer. At present, the relevant regulations remain dispersed across various laws and regulations, which often lack clear interconnections. Therefore, the establishment of a more comprehensive and integrated regulatory framework is essential to ensure legal certainty and provide clear guidance regarding the rights, obligations, and liabilities of the parties involved in Electronic Fund Transfer transactions. Second, the legal approach adopted should be more adaptive and responsive to technological developments. The law should not merely react to problems that have already occurred but should also be capable of anticipating future technological developments and their potential legal implications. This may be achieved through periodic regulatory updates, continuous evaluation of existing legal instruments, and the strengthening of the role of supervisory authorities in the digital financial sector.

Third, strengthening security mechanisms for Electronic Fund Transfer should be given priority. In view of the increasing risks of cybercrime and other forms of digital fraud, system operators must ensure that the technologies they employ meet high security standards. In addition, stricter security standards and effective supervisory mechanisms should be established to minimize the risks of unauthorized transactions, data breaches, system failures, and other forms of technological exploitation. Fourth, consumer protection should be strengthened through greater transparency of information, enhanced digital literacy and education, and the provision of accessible and effective dispute resolution mechanisms. Consumers should be provided with adequate information and understanding of the risks, rights, and obligations associated with Electronic Fund Transfer so that they are able to use such services safely, responsibly, and with greater legal awareness.

Fifth, strengthening the capacity of law enforcement authorities is equally important. Law enforcement in the field of electronic transactions requires not only an understanding of legal principles but also adequate knowledge of information technology and digital transaction systems. Therefore, continuous training and capacity building for law enforcement personnel, as well as the strengthening of relevant human resources and technical expertise, are necessary to ensure effective law enforcement in the digital financial sector. Through these measures, Electronic Fund Transfer is expected to develop optimally as an integral component of the digital economy—one that is not only efficient and technologically innovative but also capable of ensuring justice, legal certainty, security, and adequate protection for all parties involved.

REFERENCES

1) Arief, Barda Nawawi. Tindak Pidana Mayantara: Perkembangan Kajian Cyber Crime di Indonesia. Jakarta: RajaGrafindo Persada, 2006.
2) Barkatullah, Abdul Halim. Hukum Transaksi Elektronik di Indonesia. Bandung: Nusa Media, 2019.
3) Fuady, Munir. *Hukum Perbankan Modern*. Bandung: Citra Aditya Bakti.
4) Makarim, Edmon. Pengantar Hukum Telematika. Jakarta: RajaGrafindo Persada.
5) Marzuki, Peter Mahmud. *Penelitian Hukum*. Jakarta: Kencana, 2021.
6) Maskun. Kejahatan Siber (Cyber Crime): Suatu Pengantar. Jakarta: Kencana, 2013.
7) Rahardjo, Satjipto. Ilmu Hukum. Bandung: Citra Aditya Bakti, 2014.

8) Sjahdeini, Sutan Remy. *Perbankan Islam dan Kedudukannya dalam Tata Hukum Perbankan Indonesia*. Jakarta: Kencana, 2014.
9) Aidil, Andi Muhammad, Muh Arya Darmawan, and Summa. "Analisis Perlindungan Hukum dalam Transaksi Transfer Melalui Aplikasi Dana." Jurnal Kajian Hukum dan Kebijakan Publik, Vol. 2, No. 1, 2024.
10) Akhmaddhian, Suwari, and Asri Agustiwi. "Perlindungan Hukum Terhadap Konsumen dalam Transaksi Jual Beli SecaraElektronik di Indonesia." *Unifikasi: Jurnal Ilmu Hukum*, Vol. 3, No. 2, 2016.
11) Alamsyah, Rahmat, Sukarno, and Irma Istihara Zain. "Perlindungan Hukum Terhadap Konsumen Dalam Transaksi DigitalMelalui Aplikasi Dana Berdasarkan Hukum Positif di Indonesia." *Unizar Recht Journal*, Vol. 3, No. 3, 2024.
12) Sanjaya, Sendi. "Tanggung Jawab Hukum Perdata dalam Transaksi Digital: Analisis Kontrak Elektronik, Platform Marketplace, dan Perlindungan Konsumen di Indonesia." *Berajah Journal*, Vol. 5, No. 7, 2026.
13) Kitab Undang-Undang Hukum Perdata (Indonesian Civil Code).
14) Law Number 11 of 2008 concerning Electronic Information and Transactions (*Undang-Undang tentang Informasi dan Transaksi Elektronik*) (State Gazette of the Republic of Indonesia of 2008 Number 58, Supplement to the State Gazette of the Republic of Indonesia Number 4843).
15) Law Number 3 of 2011 concerning Fund Transfers (Undang-Undang tentang Transfer Dana) (State Gazette of the Republic of Indonesia of 2011 Number 39, Supplement to the State Gazette of the Republic of Indonesia Number 5204).

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