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Legal due diligence for digital collateral: Banking prudential standards in assessing ownership, custody, and the creation of security interests over digital assets

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Abstract

The development of digital technology has led to the emergence of various forms of digital assets such as cryptocurrencies, digital tokens, and Non-Fungible Tokens (NFTs), which possess economic value and have begun to be utilized in modern financing activities. This development raises legal issues regarding the legal status of digital assets as collateral objects and the implementation of legal due diligence by banks in assessing the ownership, custody, and encumbrance of digital asset collateral. This study aims to analyze the legal position of digital assets as collateral objects within the Indonesian legal system and to examine the implementation of legal due diligence as a prudential banking standard in assessing digital assets used as collateral. This research employs a normative legal research method using statutory and conceptual approaches. The legal materials used consist of primary legal materials in the form of laws and regulations related to banking law, security law, and digital asset regulations, as well as secondary legal materials comprising books, scientific journals, and other legal literature. The results of this study indicate that digital assets may generally be classified as intangible movable property possessing economic value and potentially eligible to serve as collateral objects under the Indonesian law of property and fiduciary security law. However, the absence of specific regulations concerning digital collateral has resulted in legal uncertainty regarding the mechanisms for the encumbrance, registration, and execution of digital asset collateral. Furthermore, the implementation of legal due diligence concerning digital assets requires a more comprehensive assessment standard, including verification of legal ownership, examination of custody mechanisms, application of Know Your Customer (KYC) and Anti-Money Laundering (AML) principles, as well as cybersecurity risk analysis. Therefore, specific regulations concerning digital collateral and legal due diligence standards are necessary in order to provide legal certainty and legal protection for banking institutions within Indonesia's digital financing system.

Keywords: Legal due diligence, digital assets, digital collateral, banking prudential principle

Introduction

The development of digital technology has given rise to various new forms of assets with significant economic value, one of which is digital assets. The emergence of digital assets has progressed alongside the increasing use of blockchain technology, cryptocurrencies, asset tokenisation, and digital trading within the modern economic system. Digital assets are no longer used solely as investment instruments but have also begun to be recognised as forms of property that may be transferred, traded, and utilised as objects of financing [1]. This phenomenon demonstrates a transformation in the concept of property under private law, which was previously oriented primarily toward tangible objects but has now expanded to encompass intangible assets possessing economic value.

In Indonesia, the regulatory framework governing digital assets continues to develop on a sectoral basis and has not yet been fully integrated into the national legal system. The recognition of crypto-assets as commodities that may be traded on futures exchanges under various regulations issued by the Commodity Futures Trading Regulatory Agency (Bappebti) has conferred legal legitimacy upon the existence and use of digital assets in economic activities [2]. The development of digital financial regulation has also been strengthened through Law Number 4 of 2023 concerning the Development and Strengthening of the Financial Sector, which has begun to provide a regulatory framework for technological innovation in the financial services sector. Nevertheless, these regulations have not explicitly addressed the legal status of digital assets as collateral within the national security law system. This situation creates legal uncertainty as to whether digital assets may be classified as objects of proprietary security rights under Indonesian positive law [3].

From a theoretical perspective, Indonesian security law recognises several forms of proprietary security rights, including pledge, fiduciary security, mortgage, and security rights over land. These legal arrangements were fundamentally developed with conventional property as their primary orientation, particularly assets possessing a physical form or capable of being subject to demonstrable possession [4]. Nevertheless, the intangible, decentralised, and electronically based characteristics of digital assets pose significant challenges to the application of conventional security law regimes. Digital assets have no physical form, while their control depends on electronic systems such as private keys and digital wallets. These characteristics raise legal issues concerning proof of ownership and control, as well as the mechanisms for enforcing the security interest in the event of the debtor's default [5]. The principal issue, therefore, lies in the lack of alignment between the distinctive characteristics of digital assets and the legal framework governing proprietary security rights in Indonesia, resulting in legal uncertainty regarding the acceptance of digital assets as collateral.

The development of the digital financial industry has encouraged banking institutions to consider digital assets as alternative forms of collateral in credit transactions. The substantial economic value of digital assets creates considerable potential for their use in financing activities. Several jurisdictions, including the United States and Singapore, have begun to consider digital assets as collateral in financial technology-based financing transactions. The development of decentralised finance (DeFi) further demonstrates that digital assets have undergone a functional transformation from mere investment instruments into modern financing instruments through crypto-backed lending mechanisms. The acceptance of digital assets as collateral, however, also entails considerable legal and operational risks, including asset-price volatility, cybersecurity threats, money laundering, and uncertainty regarding the legal ownership of such assets [6]. Banks are therefore required to rigorously apply the prudential banking principle before accepting digital assets as collateral for credit facilities.

One of the essential instruments for implementing the prudential banking principle is legal due diligence. Legal due diligence constitutes a comprehensive legal examination of an asset or transaction to ascertain the legality, validity, and legal certainty of the asset intended to serve as collateral [7]. In the context of digital assets, legal due diligence is required to assess the validity of ownership, custody arrangements, the validity of blockchain transactions, and the possibility of multiple security interests being created over the same asset [8]. Such an examination is particularly important given that digital assets possess distinctive characteristics that differ from those of conventional collateral. The application of legal due diligence is also closely associated with the theories of legal certainty and legal protection, as it seeks to provide safeguards for both creditors and debtors in financing relationships involving digital assets.

Nevertheless, to date, Indonesian banking law has not established specific legal standards governing the conduct of legal due diligence in relation to digital assets. This regulatory lacuna may give rise to legal uncertainty for both creditors and debtors, particularly with respect to the availability of legal protection and the enforceability of security interests over digital assets in the event of the debtor’s default [9]. Furthermore, the absence of harmonisation among banking law, the law governing proprietary security rights, and digital asset regulation has resulted in the use of digital assets as collateral continuing to encounter various normative and practical impediments.

Based on the foregoing discussion, the development of digital assets as a form of digital property demonstrates the emergence of new legal needs concerning their use as collateral within Indonesia’s financing system. The absence of a comprehensive regulatory framework governing the legal status of digital assets within the regime of proprietary security rights has created legal uncertainty regarding their eligibility as collateral. The blockchain-based and electronic characteristics of digital assets also present particular challenges for banking institutions in applying the prudential banking principle, especially through legal due diligence mechanisms intended to assess ownership, custody arrangements, and the possibility of existing or multiple security interests over such assets. This research is therefore necessary to examine the legal status of digital assets as collateral under the Indonesian legal system and the application of legal due diligence as a prudential standard for banks in accepting digital assets as secured property. The study is expected to contribute to the development of Indonesian security law and digital financial law, while providing a conceptual foundation for the formulation of regulations capable of ensuring legal certainty in the use of digital assets as collateral.

Research Method

This research employs a normative juridical method, namely an approach focused on examining the applicable legal norms governing the legal status of digital assets as collateral and the standards of banking due diligence in assessing the ownership, custody, and creation of security interests over digital assets in Indonesia. The research adopts a statutory approach and a conceptual approach. The legal materials used in this research comprise primary legal materials, including relevant legislation and national legal instruments. Secondary legal materials are also employed, consisting of legal textbooks, scholarly journal articles, and other relevant legal materials. The legal materials are collected through library research by identifying, examining, and classifying various sources relevant to the legal issues addressed in this study. The analysis is subsequently conducted through grammatical and systematic interpretation of legal norms relating to security law, banking law, and digital asset regulation.

Results and Discussion

1. The Legal Status of Digital Assets as Collateral under the Indonesian Legal System

The development of digital technology has given rise to various forms of digital assets possessing economic value, including cryptocurrencies, non-fungible tokens (NFTs), digital tokens, and other forms of virtual assets. Digital assets are no longer used solely as instruments of investment and trade but have also begun to be considered as collateral in financing and banking transactions. This phenomenon reflects a transformation in the concept of property under Indonesian property law, which was previously oriented primarily toward tangible objects but has now expanded to encompass intangible assets that possess economic value and are capable of being transferred [5].

From the perspective of Indonesian private law, the concept of property is governed by Article 499 of the Indonesian Civil Code (hereinafter referred to as the Civil Code), which provides that “property comprises every good and right capable of being owned by a person.” This provision allows for the interpretation that property need not necessarily possess a physical form, but may also take the form of a right or an economic interest possessing value. Digital assets, which are capable of being owned, transferred, traded, and assigned economic value, may therefore, in principle, satisfy the legal characteristics of property under Indonesian property law [1].

Article 503 of the Civil Code distinguishes property into tangible and intangible property. Within this legal framework, digital assets may be classified as intangible movable property because their existence takes the form of electronic data stored on a blockchain system or a particular digital platform. These characteristics correspond to the nature of cryptocurrencies and NFTs, whose existence depends upon digital technology and the possession of a private key as the means of exercising control over the relevant assets [8].

Indirect recognition of digital assets may also be found in various national regulations. Under Regulation of the Commodity Futures Trading Regulatory Agency Number 8 of 2021 concerning Guidelines for the Operation of Physical Crypto-Asset Trading on Futures Exchanges, crypto-assets are recognised as commodities that may lawfully be traded in Indonesia. This regulation provides legal recognition that crypto-assets possess economic value and may constitute objects of legal transactions. Nevertheless, the scope of the regulation remains confined to commodity trading and does not expressly govern the use of crypto-assets as objects of proprietary security rights [3].

Law Number 42 of 1999 concerning Fiduciary Security provides a potential legal basis for the use of digital assets as collateral. Article 1 point 4 of the Fiduciary Security Law stipulates that the objects of fiduciary security include movable property, whether tangible or intangible. This provision supports the argument that digital assets, including cryptocurrencies and NFTs, may theoretically serve as objects of fiduciary security because they constitute intangible movable property possessing economic value and transferable ownership rights [4].

Nevertheless, the use of digital assets as collateral continues to encounter various normative legal issues. One of the principal concerns is the absence of legal certainty regarding the mechanism for creating security interests over digital assets, particularly in relation to control of the private key, verification of wallet ownership, and enforcement procedures in the event of the debtor's default. Within blockchain-based digital asset systems, control over the asset depends substantially on possession of the relevant digital access credentials, thereby presenting distinct challenges for creditors in ensuring the valid and effective creation and perfection of a security interest [10].

A further issue arises from the high volatility of digital asset values. Unlike conventional forms of collateral, such as land or motor vehicles, which generally maintain relatively stable values, the value of digital assets may fluctuate substantially within a short period of time. This condition gives rise to both legal and economic risks for banking institutions in applying the prudential banking principle. Banks therefore require a more comprehensive legal due diligence mechanism before accepting digital assets as collateral for credit facilities.

Recent scholarly studies have increasingly advocated the reformulation of Indonesian security law to accommodate developments in the digital economy. The establishment of a specific regulatory framework governing digital asset collateral is considered essential to ensure legal certainty, protect creditors, and provide appropriate supervisory standards for the use of digital assets as security. In the absence of clear regulation, the use of digital assets as collateral may give rise to legal disputes concerning ownership, enforcement, and the validity of the creation and perfection of the security interest itself.

2. The Application of Legal Due Diligence as a Prudential Standard for Banks in Assessing Ownership, Custody, and the Creation of Security Interests over Digital Assets

The development of digital financial technology has driven a transformation in modern financing systems, including the emergence of digital assets as objects possessing economic value. This development presents new challenges for banking institutions in applying the prudential banking principle when accepting digital assets as collateral for credit facilities. Unlike conventional collateral, which possesses a physical form and is supported by a clearly established registration system, digital assets are virtual, decentralised, and dependent upon blockchain-based electronic systems [11]. Accordingly, a more comprehensive legal due diligence process is required to ensure legal certainty, verify the validity of ownership, and safeguard digital assets before they are accepted as collateral.

The prudential banking principle constitutes a fundamental principle of banking operations, as stipulated in Article 2 of Law Number 10 of 1998 concerning Banking. This principle requires banks to conduct a thorough assessment of every risk that may arise in the course of financing activities [12]. In the context of digital assets, the application of the prudential banking principle becomes increasingly important due to the substantial risks arising from asset-value volatility, cybercrime, transactional anonymity, and regulatory uncertainty concerning the legal status of digital assets as collateral [11].

Legal due diligence in relation to digital assets essentially constitutes a legal examination process aimed at ensuring that the assets proposed as collateral satisfy the requirements of legality, valid ownership, freedom from dispute, and legal eligibility to be encumbered with a security interest. The examination encompasses the identification of legal ownership and beneficial ownership, the source from which the assets were acquired, and the possibility that the digital assets may already be subject to third-party rights or existing security interests [13]. Due diligence is also required to ascertain that the digital assets are not derived from criminal activities, including money laundering, digital fraud, or other forms of unlawful financing.

In practice, the verification of ownership of digital assets constitutes one of the principal challenges faced by banks. Blockchain systems do not invariably disclose the personal identity of the asset holder directly, but generally display only the relevant wallet address and the history of digital transactions [14]. This condition renders proof of ownership of digital assets fundamentally different from that of conventional collateral, which is commonly supported by certificates or official registration records. Banks must therefore undertake enhanced due diligence by verifying the customer's identity, validating wallet ownership, and tracing the relevant blockchain transaction history in order to establish the legal ownership of the digital assets proposed as collateral [14].

In addition to ownership considerations, banks must also examine the storage or custodial arrangements applicable to digital assets. Within the digital asset ecosystem, custody may be provided through a centralised exchange or maintained in a decentralised wallet [15]. Under a centralised custody arrangement, digital assets are held by a third party, such as a crypto-asset exchange or digital custodian, with access to and control over the assets continuing to involve the relevant service provider. By contrast, decentralised custody grants the wallet owner exclusive control over the assets through possession of the private key, without the involvement of any third-party intermediary [16]. The distinction between these custodial models affects the level of security, the degree of control over the assets, and the effectiveness of enforcing the security interest in the event of the debtor's default.

The regulation of crypto-asset trading and custody in Indonesia has been partially accommodated through Regulation of the Commodity Futures Trading Regulatory Agency Number 8 of 2021 concerning Guidelines for the Operation of Physical Crypto-Asset Trading on Futures Exchanges. The Regulation requires crypto-asset trading operators to implement adequate electronic security systems and to ensure that digital assets are held through designated custodial arrangements. Nevertheless, it does not specifically govern the legal mechanisms for establishing control over, or creating and perfecting security interests in, digital assets within banking and financing transactions.

Legal due diligence is also closely associated with the implementation of Anti-Money Laundering (AML) and Know Your Customer (KYC) principles. The pseudonymous nature of digital asset transactions creates a significant risk that cryptocurrencies may be used as instruments for money laundering and the concealment of unlawfully acquired asset [17]. anks are therefore required to conduct customer due diligence and enhanced due diligence pursuant to Law Number 8 of 2010 concerning the Prevention and Eradication of the Crime of Money Laundering, as well as the relevant regulations issued by the Financial Services Authority concerning the implementation of anti-money laundering and counter-terrorist financing programmes within the financial services sector[18].

Another issue arising from the use of digital assets as collateral is the absence of an integrated digital security registration system. Under the conventional security law regime, the creation of security rights is generally recorded in official registries, such as the fiduciary security registry or the land mortgage registry, thereby providing legal certainty for creditors. Digital assets, by contrast, are not yet subject to a national registration system capable of recording whether they have been encumbered by a security interest. Consequently, banks are exposed to the risk of double collateralisation, whereby the same digital asset is used as collateral in favour of multiple financing institutions simultaneously [19].

In addition to legal risks, the use of digital assets as collateral also gives rise to cybersecurity risks. Threats such as hacking, malware, phishing, and the loss of a private key may result in the loss of access to the digital assets subject to the security interest [20]. Under such circumstances, a bank may be deprived of its ability to enforce the security interest, notwithstanding that it legally holds rights over the relevant asset. Legal due diligence in respect of digital assets should therefore be integrated with a digital security assessment to ensure the effective protection and enforceability of digital collateral.

The application of legal due diligence to digital assets therefore requires not only a conventional legal approach, but also technological and digital security assessments. The absence of specific regulations governing digital collateral in Indonesia has resulted in due diligence standards for digital assets remaining dependent upon the interpretation of the prudential banking principle and the general provisions of security law. A more comprehensive regulatory framework governing legal due diligence for digital assets is therefore required to ensure legal certainty, creditor protection, and the stability of Indonesia’s digital financing system.

Conclusion

Based on the foregoing analysis, it may be concluded that digital assets may, in principle, be legally classified as intangible movable property possessing economic value and capable of being owned and transferred. This legal status may be normatively linked to Articles 499 and 503 of the Indonesian Civil Code, as well as Law Number 42 of 1999 concerning Fiduciary Security, which permits intangible movable property to serve as an object of security. The recognition of crypto-assets as digital commodities under regulations issued by the Commodity Futures Trading Regulatory Agency further reinforces the existence of digital assets within the Indonesian legal system. Nevertheless, the absence of specific provisions governing the creation, perfection, registration, and enforcement of security interests over digital assets means that their use as collateral continues to encounter various legal obstacles and uncertainties, particularly in relation to proof of ownership, control of private keys, and the protection of creditors.

The application of legal due diligence constitutes an implementation of the prudential banking principle in assessing the ownership, custody, and encumbrance of digital assets offered as collateral. Legal due diligence in respect of digital assets encompasses not only the examination of legal ownership and the status of any existing security interests, but also wallet verification, custodial arrangements, compliance with Know Your Customer (KYC) and Anti-Money Laundering (AML) requirements, and an assessment of cybersecurity risks associated with the digital assets proposed as collateral. The complex characteristics of digital assets require banks to adopt legal and technical examination standards that are more comprehensive than those applied to conventional collateral. Specific regulations governing legal due diligence standards and the mechanisms for creating and perfecting security interests over digital assets are therefore required to ensure legal certainty, protect creditors, and support the development of Indonesia’s digital financing system.

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