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Electronic money: Between economic opportunities and legal certainty in Indonesia

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Abstract

This article examines the role of electronic money (e-money) in Indonesia as both an economic opportunity and a legal challenge. The widespread adoption of digital financial services such as OVO, GoPay, Dana, and LinkAja has significantly contributed to transaction efficiency, security, financial inclusion, and the growth of micro, small, and medium enterprises (MSMEs). However, the rapid development of financial technology raises critical issues related to data protection, cybersecurity risks, infrastructure disparities, and consumer behavior that tends toward impulsive consumption. Using a normative juridical method, this study analyzes relevant legal frameworks, including the 1945 Constitution, the Information and Electronic Transactions Law, the Consumer Protection Law, and Bank Indonesia regulations, to evaluate the extent of legal certainty and protection for e-money users. The findings indicate that regulatory ambiguities, particularly the overlapping authority between the Financial Services Authority (OJK) and Bank Indonesia, create legal loopholes that undermine consumer protection and hinder innovation. Therefore, regulatory harmonization, stronger enforcement, and improved financial literacy are necessary to ensure that electronic money can support sustainable economic transformation while safeguarding public interests.

Keywords

Electronic Money, Financial Inclusion, Legal Certainty, Fintech Regulation, Consumer Protection

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Introduction

Electronic money is a payment system innovation that aims to make it easier for people to transact. The main function of electronic money remains the same as conventional money, namely as a medium of exchange, store of value, and unit of calculation in the economy, but in a digital form stored in electronic media such as cards or servers [1]. In addition to being easy, effective, and efficient, the renewal of electronic or non-cash means of payment is also intended to minimize the occurrence of crime due to the large number of people who carry cash [2]. Thus, electronic money has great potential to continue to evolve and change the landscape of payment systems in the future

The rapid growth of digital infrastructure in Indonesia, such as the increasing number of smartphone users and internet access, has driven the massive adoption of electronic money and given rise to many payment fintech services such as OVO, GoPay, Dana, and others [3]. Internet users from year to year are increasing the same This condition makes digital financial service providers (*financial technology/ fintech*) for payment transactions increasingly mushrooming in Indonesia [4]. Some of the names of payment fintech ranging from OVO, GoPay, Dana, Doku, Midtrans, and so on. Thus, electronic money not only facilitates transactions, but also becomes a major driver of economic transformation in the digital era.

LinkAja is a joint venture of State-Owned Enterprises (SOEs) that provide digital financial services also emerged [5]. In general, it provides digital wallet or digital wallet services. This digital wallet allows users to store money in the application, then use it for payment transactions at offline and online merchants. With the rapid growth of smartphone and internet users in Indonesia, digital wallets like LinkAja have great potential to expand financial inclusion and support the transformation of the national digital economy [6].

Grant Thornton Indonesia summarizes three important things that the public needs to know regarding *the cashless society* to get a comprehensive view of non-cash transactions compared to cash transactions, which of course there are always plus-minus between the two. A cashless society offers a number of advantages, such as convenience, speed, and security in transactions, as well as reducing the risk of crimes related to cash [7].

However, there are several challenges and risks, such as potential data privacy breaches, cybersecurity threats, and reliance on digital infrastructure that if failed can cripple the 264 economic system. People who do not yet have access to banking services or digital technology, such as the elderly and residents in remote areas, are also at risk of being marginalized in the cashless system [8]. Therefore, while a cashless society brings many benefits, it is important to ensure data protection, financial inclusion, and infrastructure readiness so that the transition to cashless transactions is fair and safe for all levels of society [7].

Attractive promos from digital money service providers, such as discounts and cashback, can attract people to use digital money. While these advantages are beneficial when shopping for necessary products, this ease of access also has the potential to make people more consumptive, leading to impulse purchases and uncontrolled spending [9].

On the other hand, cashless transactions offer a faster process compared to cash transactions, which often take time to count money and wait for change. In addition, digital money cards and apps come with pins and passwords that increase security, reducing the risk of robbery. Thus, cashless transactions are a more efficient and secure option [10].

However, it should also be understood that no matter how sophisticated the technology used in the electronic money system, there are still loopholes that allow cyber-attacks to occur, including data theft with a high risk of losing money because the data is hacked by irresponsible parties. Financial planner of Tatadana Consulting Tejasari Asad said that people are currently still complacent with cashless euphoria, however, non-cash transactions also have weaknesses. One of them depends on technology, so it has the potential for disruption. If there is a disruption, it is feared that it will disrupt the user's finances.

Method

The research method used is normative juridical, which is research that focuses on the study of laws and regulations and legal doctrines that govern electronic money. This research uses primary legal materials such as the 1945 Constitution, the ITE Law, the Consumer Protection Law, and the Bank Indonesia Regulation on Electronic Money. The analysis was carried out qualitatively to assess legal certainty, position, and legal protection for electronic money users in Indonesia.

Results and Discussion

Electronic money: Science and technology and innovation for the community

The development of Science and Technology (IPTEK) has brought various innovations, especially in the financial sector, which are greatly benefited by the public through the presence of electronic money (e-money). Electronic money is a means of payment that is stored in an electronic system, allowing cashless transactions, either in the form of cards (such as toll cards and transportation) or applications on smartphones (e-wallets).

The advantages of using electronic money are very diverse. First, transaction efficiency because users do not need to carry large amounts of cash [10]. Second, better security, reducing the risk of losing or stealing money. Third, the ease of tracking expenses because all transactions are recorded digitally [11].

Electronic money innovation has been proven to drive the progress of the digital economy and financial inclusion in Indonesia, especially for MSME actors. The use of electronic money and digital payment platforms such as QRIS and Gopay increases operational efficiency, expands market access, and facilitates transactions for MSMEs, thereby contributing to increasing revenue and business profitability [12]. Studies show that socialization and adoption of e-money can increase MSME sales by up to 25% and operational efficiency by 20%, while expanding customer reach [13]. With the support of the government and financial institutions that continue to develop policies and infrastructure, the electronic money ecosystem has become safer, more convenient, and more accessible to all levels of society [14]. Thus, electronic money not only accelerates the digital transformation of MSMEs, but also opens up opportunities for more equitable economic growth at all levels of society.

Socialization and education related to the use of electronic money also continue to be carried out to ensure that people not only become users, but also understand the potential and risks that may arise. Electronic money opens up access to financial services, especially in urban and remote areas that are now accessible by digital networks, reduces inequality of access to banking, and helps MSMEs operate in a modern manner. In addition, electronic money supports government programs to realize the national digital economy. The use of e-money in public transactions, such as tax payments, transportation, and social assistance, accelerates public services and strengthens transparent governance.

To ensure the contribution of electronic money to development, synergy is needed between the government, the private sector, and the community. The government must ensure regulations and infrastructure, the private sector needs to continue to innovate and maintain system security, while the public is encouraged to improve digital and financial literacy [15]. With wise use, electronic money can become a major pillar in realizing a more modern, inclusive, and prosperous society, and play an important role in the progress and development of Indonesian society.

Barriers to electronic money in science and technology and community innovation

Electronic money is the result of the development of Science and Technology (IPTEK) in the financial sector which aims to accelerate digital transformation and support financial inclusion in Indonesia. With the existence of electronic money, it is hoped that people can make financial transactions more easily and efficiently. However, in practice, there are various obstacles that hinder the development of science and technology and innovation in society.

One of the main obstacles is the limitations of infrastructure, which is particularly felt in rural and remote areas [16]. In many areas, uneven internet networks cause access to electronic money services to be not optimal. This makes it difficult for people in the area to use services that should facilitate transactions, such as e-wallets or other payment applications. In addition, the lack of device support, such as adequate smartphones and compatible payment systems, is also a inhibiting factor in the widespread adoption of the technology.

Security issues are a very crucial issue in the use of electronic money. People often face the risk of digital fraud, hacking of e-wallet accounts, and theft of personal data [17]. Distrust in the security of the electronic money system is the main obstacle to public participation. Many individuals are hesitant to use this system for fear of losing their money or personal data. And the lack of existing legal products has not created security for this.

Regulations that are not uniform or are not in line with technological developments create legal uncertainty. Existing regulations are often unable to accommodate rapid innovation in the digital finance sector [18]. The ambiguity between the rules governing service providers, banks, and consumers can lead to confusion and uncertainty. As is the case in the financial sector law, namely, Law No. 21 of 2011 concerning the Financial Services Authority (OJK) [19]. Although this law provides the basis for regulating the financial sector in Indonesia, it does not accommodate the detailed aspects related to electronic money (e-money) and financial technology (fintech) which are growing rapidly. This creates a significant legal loophole, where innovation in the financial sector often runs faster than existing regulations. Without clear and responsive regulations, the potential of electronic money to drive financial inclusion and transaction efficiency cannot be maximized safely and sustainably

In the context of electronic money, the lack of clarity regarding the definition and categories of digital financial services in the OJK Law causes difficulties in supervision and consumer protection. For example, this law does not explicitly regulate about the types of electronic money services offered by various platforms, so many service providers operate without clear licenses. As a result, consumers become vulnerable to the risk of fraud and misuse of personal data, as there is no adequate guarantee of protection for them.

This shows that this gap in regulation has the potential to cause bigger problems in the digital financial ecosystem. With legal uncertainty, industry players tend to avoid the investments and innovations needed to improve services and protection for users. In addition, the lack of clarity between the OJK and Bank Indonesia regarding the regulation of electronic money also creates an overlap in authority, which can confuse service providers and consumers [20].

To overcome this problem, it is necessary to revise the OJK Law to include more specific provisions regarding electronic money and fintech. Clearer and harmonious regulations between the OJK and other financial institutions will provide legal certainty, as well as increase public trust in the use of electronic money. Stricter enforcement of laws against violations within the sector is also needed to protect consumers and drive sustainable growth in the digital financial ecosystem. With these steps, it is hoped that electronic money can function optimally as a tool to accelerate financial inclusion and innovation in Indonesia.

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Similarly, Bank Indonesia Regulation No. 19/12/PBI/2017 on the Implementation of Financial Technology provides a basic framework for regulating the fintech sector, but it is often not in line with the rapid development of innovation in the field of electronic money. In practice, many electronic money service providers operate without clarity regarding the necessary licenses and oversight, creating a legal loophole that can be exploited by irresponsible parties. This shows that the ambiguity in these regulations can result in risks to consumers, who may not be adequately protected. Without a clear monitoring mechanism, the public has the potential to suffer losses due to fraud or misuse of personal data. In addition, uncertainty regarding licensing obligations can hinder industry players looking to innovate, as they worry about inconsistent sanctions or legal action.

The overlap between OJK and Bank Indonesia creates difficulties for industry players in operating, which in turn hinders the growth of the digital financial ecosystem. The gap in this regulation has the potential to reduce public trust in the electronic money system, due to legal uncertainty resulting from differences in regulation [21]. Thus, there is a need for regulatory harmonization and legislative updates that are more responsive to the dynamics of financial technology. With this step, it is hoped that a clear legal framework will be created, facilitate innovation, and increase protection for consumers in the use of electronic money [22].

Conclusion

Electronic money (e-money) is present as a payment system innovation that brings many benefits such as convenience, efficiency, security, and supporting the transformation of the digital economy in Indonesia. The rapid development of digital infrastructure, especially the use of smartphones and the internet, has encouraged the rise of payment fintech services such as OVO, GoPay, Dana, LinkAja, and others, thereby expanding people's financial access and supporting national financial inclusion.

However, the implementation of a cashless payment system also faces a number of challenges, including the risk of data privacy violations, cybersecurity threats, and reliance on digital infrastructure that if disrupted can paralyze economic transactions. In addition, the existence of attractive promotions from e-money providers has the potential to cause consumptive behavior and impulsive shopping in the community. So, it needs to be balanced with legal protection, financial literacy, and equitable distribution of infrastructure.

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