

The Use of Electronic Money as a Transaction System in Indonesia

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ABSTRACT

Advancements in technology during the 4.0 era promise significant benefits for human civilization. This study focuses on the technological evolution of digital payment methods, specifically electronic money (e-money), in Indonesia's digital economy landscape. E-money, utilizing electronic devices like chips or servers, serves as a cashless payment alternative, contributing to a notable decline in cash usage. The proliferation of e-money is evident in Indonesia, driven by startups and competition among key players like Gojek, OVO, and Shopee. The research employs qualitative methods, including a descriptive approach and literature survey, drawing insights from various sources such as books, journals, and prior research. While the adoption of e-money has surged, particularly for its convenience, security, and speed in digital transactions, challenges persist in remote parts of Indonesia where cash remains prevalent. Recognizing this, Bank Indonesia collaborates with institutions to promote non-cash transactions, striving towards a cashless society.

1. Introduction

The remarkable progress in the realm of science and technology (IPTEK) has brought tremendous benefits to human civilization. Tasks once reliant on significant physical abilities can now be efficiently handled by automated machines. Additionally, advancements in computer capacity have reshaped the landscape of human brain capabilities across various scientific disciplines and activities. In essence, today's technological breakthroughs are widely acknowledged for providing unparalleled convenience and comfort in human lives (Tarantang et al., 2019).

Technological advances in the era of disruption bring significant changes to human habits. This can be noticed in various types of applications available on mobile phones. This convenience supports human activities, including conducting financial transactions. The transaction tool resulting from the disruption process to conventional exchange instruments is the presence of digital money/ e-money (Latief and Dirwan, 2020).

The impact of technological developments in the payment system is the emergence of payment instruments known as electronic money (e-money) and virtual money (virtual money). Electronic money emerged as an answer to the need for micropayment instruments that are expected to be able to process payments quickly at a relatively low cost, because of the value of money saved, this instrument can be placed on a certain media that can be accessed quickly off-line, safely and cheaply. While virtual money is more intended for cross-border online financial transactions on the Internet. In addition, the emergence of electronic money is also motivated by Bank Indonesia Regulations Number

11/12/PBI/2009 and Number 16/8/PBI/2014 as one of the supporters of Bank Indonesia's agenda to create a less cash society in the Republic of Indonesia (Hendarsyah, 2016).

Some of the advantages offered by electronic money are the ease of transaction processing, efficiency of transaction time, and can be replenished through various facilities provided by the issuer. Digital money providers can provide chip-based services (cards) or servers. Chip-based electronic money such as Brizzi and Flazz while server-based electronic money is OVO, GoPay, LinkAja, and ShopeePay (Latief and Dirwan, 2020).

Despite the efficiency of digital payment systems, a substantial number of Indonesians still rely on cash transactions. Currently, digital payment users are primarily from the middle to upper-middle class and those with technological literacy. This uneven adoption highlights the need for a more inclusive distribution of electronic money usage in Indonesia. The government's 'less cash society' initiative aims to prepare the nation for global competition, particularly within the ASEAN Economic Community (AEC) established in January 2016. The push for reduced cash usage serves as a strategic measure to maintain currency stability and safeguard against depreciation (Tarantang et al., 2019).

Previous research, as exemplified by Sari (2021) in "The Existence of Electronic Money in People's Lives," highlights the global technological expansion during the Industry 4.0 era, emphasizing the simplification of online access and transactions. Similarly, Tarantang et al. (2019), in "The Development of Digital Payment Systems in the Era of Industrial Revolution 4.0 in Indonesia," underscores the inevitability of technical progress in the digital economy. Despite the advantages and disadvantages of digital payment systems, the overall benefits contribute to a reduction in inflation by accommodating the

vast amount of money circulating in the community. Hendarsyah's study (2016) on "The Use of Electronic Money and Virtual Money as a Substitute for Cash in Indonesia" aims to promote digital currencies as substitutes for traditional cash, while Tribudhi and Soekapdjo's research (2019) titled "Determination of Transactions Using Electronic Money in Indonesia" accentuates the substantial growth of payment system innovation in Indonesia, facilitated by government infrastructure advancements in information technology, transitioning from paper-based to electronic-based instruments.

The digital era is intricately linked to advancements in technological innovation across various domains, notably in the realm of payment systems such as digital money (Tribudhi and Soekapdjo, 2019). However, there remains a disparity in the adoption of digital money in different regions of Indonesia. While urban areas witness widespread usage among the populace, remote regions lag due to inadequate technological infrastructure for digital transactions. This disparity underscores the novelty of digital payment systems, particularly in addressing the digital divide between urban and remote areas, where cash transactions persist.

This study seeks to assess the impact and development of electronic money transactions and explore the potential use of digital money in Indonesia. Employing a qualitative method with a descriptive approach, the research aims to comprehensively understand interconnected, dynamic variables, deriving meaningful insights (Hanyfah, Fernandes, and Budiarmo, 2022). The literature study involves collecting data from diverse sources, including books, journals, online news, and previous research such as Raharjo

Jati's work in 2015 (Raharjo Jati, 2015). This approach allows for a deeper understanding of the evolving landscape of electronic money in Indonesia.

2. Result and Discussion

Electronic money is a digital payment instrument acquired by depositing a certain amount of money directly with the issuer, either through direct channels or issuing agents. Alternatively, it can be obtained by debiting an account at a bank, with the corresponding monetary value being transferred to the electronic money medium, denominated in Rupiah units. This electronic money is then utilized for payment transactions, directly deducting the monetary value stored in the electronic money medium (Dini, Irwan, and Nasution, 2018).

Electronic money is literally a means of payment whose transaction process uses electronic facilities in the form of chips or servers. Based on the media, electronic money can be based on cards (chips) and networks (servers). Electronic money can be used for several transaction purposes such as payment, top-up, cash withdrawal, and refund (Latief and Dirwan, 2020)

The increase in electronic money transactions in the country occurred in line with increasing public acceptance and preference in shopping from offline to online during Covid-19 in 2021. In addition, the increase in transactions was also driven by the expansion and convenience of digital payment systems as well as the acceleration of digital banking. The increase is in line with the change in people's shopping patterns from offline to online during the Covid-19 pandemic in 2021.

According to article 1 paragraph 3 of Bank Indonesia Regulation Number 11/12/PBI/2009 concerning Electronic Money, it is a payment instrument that meets the following elements:

- 1) Issued on the basis of the value of money deposited in advance by the holder to the issuer;
- 2) The value of money is stored electronically in a medium such as a server or chip;
- 3) Used as a means of payment to merchants who are not issuers of such electronic money; and
- 4) The value of electronic money deposited by the holder and managed by the issuer is not a deposit as referred to in the law governing banking.

Electronic money can be distinguished into 2 types:

- 1) Pre-paid Card

E-money in the form of cards in circulation is only issued by banks that have obtained a special license from Bank Indonesia. The use of this card is said to be very flexible, everyone can buy e-money in the form of a prepaid card, store some money, and use it as a means of payment transactions.

- 2) Electronic Money based on e-Wallet or Application.

E-Wallet is an e-money that is packaged in a different form from the Pre-paid card, where the product is provided in an online application service, making it possible for non-bank companies to issue it. In addition to banks as financial institutions, telecommunications operator companies are also trying their luck in this business (Manurung, Pinondang Nainggolan, and Purba, 2021).

Potential use of electronic money in Indonesia

The survey conducted by Kompas "Do people use electronic money" in the picture is 76.9% of those under 41 who use electronic money and those over 41 who use electronic money are 29.9%. (MEDIANA, 2020) this proves that under the productive age of 20 to 39 years using electronic money, and the age for 40 and over does not occur due to lack of education because the average age of 40 years and over is parents who are less technologically literate and do not use electronic money only cash, while for the age of 20 to 39 is the productive age and the average is teenagers who already know technology and know to using electronic money and some are still unable to use electronic money, so education is needed about the use of electronic money to facilitate transactions because Bank Indonesia itself has a cashless society program

Table 1. The amount of electronic money in circulation

	Period	Number of Instruments
2020	December	432,281,380
2021	January	442,612,567
2021	February	456,736,475
2021	March	470,811,351
2021	April	483,354,024
2021	May	511,254,525
2021	June	495,280,424
2021	July	513,968,693
2021	August	530,664,510
2021	September	544,192,781
2021	November	544,192,781
2021	October	558,959,664
2021	December	575,323,419

Source: Bank Indonesia (2023)

In this table 1 can be seen in December 2020 electronic money in circulation A total of 432,281,380 and January 2021 to December 2021 a significant increase in the circulation of electronic money which continues to grow every month.

Table 2. Number of electronic money transactions

Period	Volume	Nominal
2020 December	438,047,792	22,135,159.53
2021 January	381,705,947	20.746.479,38
2021 February	360,064,302	19,189,083.10
2021 March	420,510,643	21,420,774.89
2021 April	421,606,419	22,848,143.59
2021 May	450,414,342	23,659,837.71
2021 June	444,336,707	24,160,774.80
2021 July	415,258,589	25,390,247.20
2021 August	439,015,177	24,754,101.87
2021 September	439,015,177	27,637,429.79
2021 October	514,266,736	29,231,098.99
2021 November	530,022,350	31,297,757.70
2021 December	602,293,039	35,100,099.84

Source: Bank Indonesia (2023)

Bank Indonesia (BI) reported a notable surge in electronic money transactions, reaching IDR 35.10 trillion by December 2021. This marked a substantial 58.60% increase compared to the same period in the previous year, where transactions amounted to IDR 22.13 trillion in December 2020. The growth continued in the short term, with a 12.17% increase from November 2021, which recorded transactions at IDR 31.29 trillion. Additionally, the transaction volume in Indonesia for December 2021 was documented at 602.29 million, demonstrating a significant rise of 13.63% from November 2021, which had 530.02 million transactions. The year-on-year comparison revealed a remarkable 37.49% increase from December 2020, where transactions stood at 438.04 million times.

Analyzing Table 1 and Table 2, the electronic money transaction system exhibits immense potential, evident in the consistent year-over-year and month-over-month

increases in transaction volumes across Indonesia. The tables suggest a promising trajectory for electronic money usage, indicating a growing awareness and adoption of electronic money among the Indonesian populace. There is a lot of potential to increase growth in digital payment transactions in Indonesia, as evidenced by the use of electronic money as a substitute for non-cash payment instruments. Especially for transactions with small value (micropayments), electronic money offers faster and more convenient transactions than cash because these transactions can be carried out more easily and affordably with it, and also guarantees the security and speed of transactions, both for consumers and for merchants (Rizky and Rizky, 2018).

The use of electronic money in Indonesia also continues to increase and is supported by the number of startup companies that have emerged as well as competition between Gojek, OVO, and Shoope companies that have also influenced the increase in digital economy transactions of the Indonesian people, especially in food and non-food consumption activities. The increase is also supported by Bank Indonesia which continues to strive to encourage the use of non-cash electronic transactions. Making efforts to develop electronic financial transaction systems and provisions so that it is expected that more and more people will switch to using electronic transactions as a means of payment in the midst of a significantly increasing global economy. The digital economy has changed the behavior of the Indonesian people mostly both directly and indirectly (Sari, 2021).

Electronic money is more convenient than using cash (in small value transactions), because customers do not need to have the right amount of money for transactions. In addition, electronic money will also affect the financial services industry in the future and

be able to reduce barriers in accessing the financial services industry. The use of electronic money as an alternative to non-cash means of payment shows considerable potential to reduce the growth rate of cash use. Electronic money also offers faster and more convenient transactions compared to cash, especially for transactions of small value (micro payments). The security and speed of this transaction is certainly a commodity that is needed and effective enough for the creation of a cash less society, which is a society that uses minimal cash payment transactions, this is indicated by the increasing number of trading centers and various types of companies that accept non-cash payments (Tazkiyyaturrohmah, 2018).

Impact and development of the use of electronic money transactions.

The increase in e-money transactions has a good impact on the economy and has a major impact on financial inclusion. The need for money in society will be influenced by the introduction of non-cash payment methods. In the long run, non-cash transactions will have an impact on economic growth because they will increase economic development and public consumption. Therefore, the existence of laws intended to encourage non-cash transactions will have a secondary impact on the economy (Amalia, 2022).

According to Priambodo and Prabawani (2015) user interest in using electronic money services is positively and significantly influenced by the perceived ease of use. Because the instructions for using electronic money services are listed in the instructions for use on each electronic money purchase package so that users can learn for themselves how to use electronic money services, the easier it is to use and understand, the greater the user's interest in using electronic money. money services. The ease of using electronic

money services when transacting at various merchants (merchant/ stores) that support electronic money transactions, as well as the ease of recharging/ topping up electronic money, go hand in hand with the ease of conducting electronic money transactions, learn and understand.

The use of electronic money (e-money) will increase public demand for products and services as well as consumer spending, which in turn can boost the actual economy. Large amounts of cash are no longer commonly carried in pockets because they are considered risky and unnecessary. The amount of money required to make a payment can be viewed as a barrier to payment efficiency. The restriction was lifted with the availability of cashless payment methods such as electronic money in the form of cards that have the potential to increase consumption (Ramadani, 2016).

Advantages of electronic money:

- 1) More practical, fast, flexible and convenient compared to cash.
- 2) The media used does not require a place like cash because it is in the form of cards or cellphones that are easy to carry everywhere.
- 3) No need for change in the form of change, because every transaction will be directly deducted on electronic money.
- 4) No Need to Go to the ATM
- 5) Safer and Avoid Theft (SBF, 2019)

Disadvantages of electronic money

- 1) It cannot be used in all places of financial transactions such as cash, because it can only be used at merchants that have collaborated with electronic money issuers and are usually widely available in big cities (Aulia, 2022).
- 2) Because electronic money is more practical, it indirectly makes users feel like continuing to use it, or in other words makes someone psychologically wasteful.

As a result of technological developments, of course electronic money has a positive and negative influence. This impact is felt by its users, entrepreneurs, and the economy in general. Here are the various impacts that can occur.

a. Positive impact

- 1) For users of electronic money, there will be a lot of efficiency done. For example, the waiting time to count cash, the time to calculate change, and so on. In addition, when going to travel everything can be more practical, without carrying a lot of cash. Sometimes, special discounts and discounts are available for electronic money users.
- 2) For the national economy, of course, electronic money has a good impact. With a faster and easier transaction process, people's consumption levels will rise. The velocity of money is accelerating and triggering the development of the real sector. More and more businesses in the real sector are attracting investors.

B. Negative Impact:

- 1) For electronic money users, the ease of transactions makes the tendency to be extravagant appear. If in the past when the money ran out people had to go to the ATM and take cash, then now many shops serve payments with e-money. Thus, a wise attitude is needed in the use of e-money as a transaction tool.
- 2) The high use of electronic money makes fraud rampant through the cyber world as well. Data theft, electronic money theft, all of that must be anticipated. Therefore, it is important for governments to innovate cyber systems and promote cyber policing. Users of electronic money services should also be more vigilant (Impact of Electronic Money on Cash, t.yr.).

In developed countries, the adoption of electronic money has seamlessly integrated into the daily lives of the public. The middle class, in particular, comprehensively recognizes the significance of incorporating electronic money into their routine transactions. This widespread acceptance is attributed to the emphasized practicality that electronic money offers. Beyond catering to the demands of a fast-paced lifestyle, the utilization of electronic money has evolved into a necessity. Conversely, in Indonesia, classified as a

developing country, the consumer base for electronic money predominantly consists of middle to upper-middle-class individuals. Presently, the segmentation of electronic money users reveals a substantial concentration among urban professionals, primarily those residing in major cities (Raharjo Jati, 2015). Meanwhile, in remote areas that lack information and technology so that people still use cash for transactions, they do not know it is electronic money or digital transactions.

In Indonesia itself there are obstacles in non-cash transactions, these factors are the availability of infrastructure and social and cultural factors, the availability of infrastructure in remote areas of Indonesia is still very minimal such as internet network constraints, transaction speed, and system reliability are challenges in the development of electronic money. And socio-cultural factors of the local community, which include residents who do not yet have access to banking services or services for non-tunan transportation. In addition, socio-cultural factors are also related to the level of public awareness of electronic money services. Obstacle factors, education on electronic money (Widyastuti, Handayani, and Wilarso, 2017)

Bank Indonesia actively collaborates with various institutions involved in non-cash transactions, with the primary goal of steering the public towards reduced reliance on cash transactions, thereby fostering a cashless society. This collaboration extends to partnerships with the banking industry and the government. The overarching objective is to enhance public awareness regarding the utilization of electronic money and other non-cash instruments. Through concerted efforts, there is a gradual societal shift towards supporting the establishment of a cashless ecosystem. Additionally, numerous electronic

money products offered by startup companies in Indonesia, such as Gojek, Shopee, and OVO, have emerged as pivotal instruments in facilitating digital payment transactions (Dini, Irwan, and Nasution, 2018).

3. Conclusion

Products offered by Islamic financial institutions to MSMEs are generally murabaha, musyarakah and people's business loans. In the Islamic banking product innovation strategy, it is currently being developed, namely by providing a variety of various banking products and services with a more varied financial scheme. This effort is an effort that is referred to as innovation in Islamic banking products. This sharia banking product innovation is the main pillar in the development of sharia banking.

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