



OPTIMIZING ZAKAT MANAGEMENT THROUGH DIGITAL TECHNOLOGY IN INCREASING THE ACQUISITION OF ZAKAT FUNDS

Onesa Lestari

¹ Faculty of Islamic Economic and Business, Universitas Islam Negeri Fatmawati Sukarno Bengkulu, Indonesia.

¹ onesaaalestari123@gmail.com.

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ABSTRACT

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With the huge potential of zakat for the welfare of society, the current management of zakat in Indonesia is still not optimal. To improve the effectiveness of zakat institutions, good governance is an important factor. As a public organization, the performance of zakat institutions, especially in administration and services, is an indicator of increasing public trust. This research aims to identify opportunities for the application of blockchain in zakat management. This research uses a descriptive qualitative approach with a literature study method on the topic of zakat and blockchain in Indonesia. The results of this study emphasize the challenges and propose strategies in managing zakat with blockchain. In this case, the role of amil zakat and muzakki is key in the implementation of zakat using blockchain technology in quality, efficient, accountable, and professional zakat management in distributing zakat to asnaf. The application of Blockchain technology in zakat management can track the status of zakat funds and make the distribution process and fund transactions transparent. This research is useful for improving zakat governance in Indonesia by providing strategies for all zakat stakeholders such as the government, Ministry of Religion, Baznas, community organizations, and zakat management institutions.

INTRODUCTION

Zakat is one of the pillars of Islam that has an important role in improving the welfare of society. In the Indonesian context, zakat not only functions as a religious obligation, but also as a social instrument that can reduce poverty and economic inequality. Although the potential of zakat in Indonesia is huge, its management still faces various challenges, such as low public awareness, lack of transparency, and efficiency in the distribution of zakat funds.

Zakat management in Indonesia faces various challenges. Although, there has been legislation governing the management of Zakat, namely Law No. 23 Year 2011. The lack of guidelines that regulate massively and comprehensively causes inconsistencies in the practice of zakat collection and distribution. In addition, limited human resources and technical capacity within zakat

institutions hinder the efficient management and monitoring of zakat activities (Luntajo & Hasan, 2023; Asnaini, Yunus, Isnaini, & Friyanti, 2023). With the rapid development of digital technology, there is an opportunity to optimize zakat management. Digital platforms, such as mobile applications and websites, can simplify the process of zakat collection and distribution. This can not only increase transparency, but also expand the reach and accessibility for muzakki (zakat payers). (Rohemah & Alim, 2022)

The mechanism and process of collecting zakat is currently undergoing a shift in accordance with the direction of the times, namely through the use of digital technology. Digitalization of zakat is needed not only to increase efficiency and effectiveness and maximize the potential for collection, but also the distribution and utilization of zakat by Zakat Management Organizations (OPZ). To achieve this goal, it is necessary to develop information technology-based zakat technology such as artificial intelligence (AI) and various other forms of zakat digitization, including *blockchain*, *financial technology*, and *Internet of Things* (IoT). (Makarim & Hamzah, 2024; Arisandi, Dasril, Salahudin, Aziz, Adnan, & Wen, 2023; Wahyuni, Yuningsih, & Arisandi, 2025) People are increasingly accustomed to using technology in various aspects of life, including in charity. Therefore, the utilization of digital technology in zakat management becomes very relevant and important to increase the acquisition of zakat funds.

Therefore, this research aims to analyze how digital technology can be implemented in zakat management to increase the acquisition of zakat funds in Indonesia. Zakat Management Organization (OPZ) continues to develop this media so that muzakki can pay zakat more easily. This research is expected to contribute to the development of a more effective and efficient zakat management strategy, as well as to encourage increased public awareness of the importance of zakat through the use of technology.

METHOD

This research is a descriptive qualitative research by conducting an exploratory study of the potential application of blockchain in zakat management in Indonesia. Qualitative research method is a research method used to study the state of natural objects where the main instrument is the main instrument, the data collection technique is triangulated, the data analysis is inductive, and the results of qualitative research emphasize meaning rather than generalization. (Ash Shiddiq et al., 2023)

The type of data used is secondary data. Where secondary data is data sourced from literature in the form of books and notes related to the research being conducted. The data collection technique in this research is a literature review or literature study. Literature reviews play an important role as a foundation for all types of research. They can serve as the basis for knowledge development, set guidelines for policy and practice, provide evidence of effects, and, if done well, have the capacity to generate new ideas and directions for a particular field .

RESULT AND DISCUSSION

Zakat is the transfer of ownership of a certain amount of money (or property) from a person who meets certain criteria for zakat to be obligated on him to a person who is entitled to it by meeting certain criteria. It is one of the obligatory forms of charity; and one of the five pillars of Islam. Because of its importance, it is mentioned thirty-two times in the Qur'an. The recipients of zakat consist of eight categories including the poor and needy. The criteria for individuals to be zakat recipients are well identified in the Shariah.

Zakat is an annual charitable obligation for Muslims; it is calculated based on a threshold value called nisab which is an index of basic living standards. Those whose net worth falls below this threshold are exempted from paying zakat. Usually, the nisab is equivalent to three ounces of gold.

People who have a net worth greater than the nisab for a full year qualify as obligated to pay zakat. The amount of zakat is calculated at 2.5% of liquid assets held for at least a full year: gold, silver, cash, savings, investments, rental income, merchandise or business profits, stocks, securities and bonds all qualify as part of the calculation.

Zakat collection and management has been institutionalized in many Muslim countries including Indonesia. Promotion, collection and distribution of zakat are carried out by respective religious authorities in accordance with sharia requirements. However, there are some challenges, according to the research paper. The current waqf management is considered inefficient, lack of transparency in terms of how funds are collected, managed and distributed, divergent views of Islamic scholars on how this should be handled and extensive bureaucracy.(Uyun, 2021; Asnaini, Yunus, Isnaini, & Friyanti, 2023) In addition, data collection, especially data collection and distribution of zakat is still not optimal because each amil makes records not integrated. There are still asnaf who have not received zakat funds whose problem is inefficient data collection. In addition, zakat payers have distrust about how funds are spent. Blockchain makes processes traceable, auditable, and immutable, all of which are essential qualities of any successful charitable improvement (Eka Sri Wahyuni, Yuningsih, & Arisandi, 2025)

Blockchain in the view of Islamic law does not conflict with the principles of maqasid sharia which includes aspects of preserving religion, soul, mind, offspring, and property. The utilization of blockchain to contribute is part of the preservation of religion and property. The Quran also feels that there should be witnesses in transactions between two parties, at least two witnesses. Blockchain technology allows more than two witnesses in each transaction because all users can see changes in each transaction (Eka Sri Wahyuni, Yuningsih, & Arisandi, 2025). It can also increase the value of transparency, honesty, and justice mandated in Islam. Smart Contracts On Blockchain Traditional contracts, in the form of physical paper, are prone to non-transparency, risk of fraud, and slowness. While this can be relatively solved by delegating a financial intermediary, high fees will be recommended above But thanks to smart contracts, transactions will be self-contained, transparent, without financial intermediaries and therefore at low cost and reliable as they are the result of a programming process.(Yasin & Billah, 2024)

Smart contracts are a flow of value governed by specific terms and circumstances. Contrary to traditional contracts, smart contracts are fully digital, consisting of pre-programmed code stored on the blockchain As blockchain grows, smart contracts adapt well to the decentralization of blockchain, allowing them to function on every node of the network. Smart contract transactions will be recorded on the blockchain without the need for intermediaries. Once certain circumstances are met, the smart contract will be executed automatically. Smart contracts can be used to create transaction logic on platforms for charitable organizations.

Thanks to blockchain, smart contract technology is prominent, and more specifically, it is thanks to the Ethereum decentralized exchange protocol that allows users to create smart contracts for exchange while using a cryptographic currency called Ether as the unit of account. As such, most smart contracts today are implemented on blockchain platforms. There are different types of blockchains, and smart contracts do not always operate within the same type of blockchain. For example, while *Hyperledger Fabric* implements alliance chains, *smart contracts model* with *Ethereum* which uses a public chain *platform*. Thanks to *blockchain* technology and distributed ledgers, smart contracts will be impossible to hack and are therefore protected from any counterfeiting. Although *smart contracts* are sufficient to be used across a wide range of transactions, they remain the most sought after in the financial sector where transactions are generally slow, lack transparency and have high fees.(Hu & Li, 2020)

Blockchain in Zakat Management

Although zakat institution is a non-profit organization, the importance of developing a social *platform* based on *blockchain* technology in its work can make the collection and distribution

process transparent and understandable to all parties. In addition, zakat is one of the wealth accumulation instruments available in Muslim countries, so the competence of managing and administering zakat collection must be at a high level. There is not only an agreement (contract) between the donor and the zakat institution, but also a contract between the zakat institution and the recipient. Therefore, competence must be maintained at all levels. (Ikhsan, 2023; Asnaini, Yunus, Isnaini, & Friyanti, 2023)

Blockchain refers to a technology that resembles a ledger where every transaction is recorded, forming a coherent unit. The system uses cryptographic signatures and public key infrastructure that ensures a secure recording process. The technology records each transaction and forms a specific block as a database that will be accumulated from all transactions. Each block comes with a timestamp to avoid duplication. Each block is connected using a cryptographic algorithm that will form a chain. Each user will keep proof of digital transactions as they are replicated and distributed to user accounts. Thus, every user can check their transactions. *Blockchain-based* zakat fund management has several objectives, including:

1. Become a community center based on sharia economy that develops sustainably
2. Making Indonesia the center of zakat platform
3. Encouraging transparency in zakat management (muzakki receive information about the use of their zakat funds which increases the credibility of zakat institutions), and
4. Facilitate the monitoring of zakat funds (muzakki can monitor the impact of their zakat funds and choose the method of monitoring the management of zakat funds).

Blockchain consists of a ledger of all transactions decentralized into a *peer to peer* network that facilitates participants to transfer desired amounts. In addition, blockchain technology is a digital record that records every transaction spread across many computers (nodes). The blockchain system processes transactions without involving any particular party or organization to improve transaction processing efficiency. The following scheme illustrates how blockchain technology can optimize the management of zakat funds.

In the scheme of zakat management with blockchain, muzaki transfers zakat funds to zakat institutions, either Baznas or Laznas because only these two institutions have a database of mustahiq zakat, including information on whether the zakat obligor is in accordance with the nisab or not when checked, and amil will send muzakki funds in the form of *cryptocurrency*. Technically, people will not use *cryptocurrency* as more than a medium of exchange during the process, and for this, individuals will adopt a fixed parity exchange system of one local currency to one unit of *cryptocurrency* to avoid value fluctuations. Until now, there is no amil zakat using this technology. Going forward, the management of zakat through *blockchain* is proposed using *stablecoins*, a type of *cryptocurrency* designed to provide security in relation to other major currencies that has seen leading central banks struggle to maintain purchasing power over time in the *crypto* asset market.

Through the application of blockchain technology in zakat collection and distribution, it will provide several benefits, namely identifying muzaki, ensuring an environment of trust, time efficiency, more efficient muzaki-mustahiq connection, facilitation of accounting processes, efficiency of remittances and avoiding lack of skills issues. (Rejeb, 2020) Furthermore, in zakat management, the blockchain system will allow all users of the platform to view their accounts and description of each payment to zakat institutions. In addition, it will guarantee zakat payers that the amount will reach its destination, without intermediaries. It is assumed that the approach of *blockchain* technology in zakat management will significantly simplify the work with reports and documentation and increase the trust of zakat payers. Information on zakat funds will be more transparent to the public, structured and organized in a distributed database. In addition, the synergy of amil zakat and muzakki in *Blockchain* zakat will increase the efficiency of time in

distributing zakat to Asnaf wherever they are.(Widiatmika, 2015) The benefits of using blockchain in zakat management in detail are as follows;

1. Identifying Muzaki
2. Increase Trust
3. Time efficiency
4. Simplify Accounting Process
5. Money transfer efficiency
6. Avoiding Mismanagement

Challenges of Using Blockchain for Zakat The development of Blockchain technology provides a great opportunity for zakat institutions because it provides cost-effective service solutions. Thus, zakat management will be able to strengthen the management system and provide better services. In addition, it will affect user intentions with experience in using technology The following are the challenges of using the blockchain system in the management of zakat(Omar & Khairi, 2021), namely:

1. Lack of clear policies and regulations from regulators.
2. Blockchain technology is in the early stages of development.
3. Zakat institutions need to ensure that the security system of all parties or stakeholders in transactions with the blockchain system is protected.
4. To ensure there is no Shariah violation or Shariah non-compliance risk involved in any stage of the transaction.
5. Lack of human resources with blockchain-related knowledge and expertise.

Strategies for implementing blockchain technology

With the challenges of implementing blockchain technology in Indonesia, especially for zakat management, several strategies are needed to overcome this.(Mustapha et al., 2025)

1. Human Resources Improvement

According to research, Indonesia needs nine million digital talents by 2035, or about 600,000 digital talents each year. According to another study conducted by McKinsey and the World Bank, Indonesia will need around nine million digital talents between 2015 and 2030. With the need for blockchain technology specifically for zakat, efforts are needed to increase the capacity of human resources. The government and zakat stakeholders including zakat institutions need to work together in creating digital literacy and training programs.

2. Blockchain Regulation Issuance

Regulation is a type of legality, entity, and law enforcement foundation to protect consumers using blockchain technology. The government now has PP 5 of 2021 concerning the Implementation of Risk-Based Business Licensing, which includes blockchain technology regulations. In Indonesia, there are currently no laws and regulations governing the use of blockchain technology for the management of social funds, especially zakat.

3. Blockchain Ecosystem Enhancement

The world's population still does not have an Internet connection, and one million people lack the digital literacy and information communication technology skills necessary for full use. In addition, the cost of advanced Internet connectivity is still very high in developing countries such as Indonesia. *Demirgüç-Kunt et al.* state that mobile phones and the internet cannot facilitate financial inclusion without adequate infrastructure, including electricity and reliable internet connections.

CONCLUSIONS

Current problems in zakat management such as lack of efficiency and lack of transparency can be solved by the use of blockchain technology. Blockchain has several benefits that can overcome this. The technology can be applied in national zakat institutions, both Baznas and Laznas, because this mechanism can bring significant changes in the world of national zakat. In this case, the role of amil zakat and muzakki is key in the implementation of zakat using blockchain technology in quality, efficient, accountable, and professional zakat management in distributing zakat to asnaf. The application of Blockchain technology in zakat management can track the status of zakat funds and make the distribution process and fund transactions transparent.

Compared to other financial technologies, the adoption of blockchain technology by users still faces some challenges especially in Indonesia. As the blockchain sector is still in its infancy, there are still many obstacles. Due to the complexity of contracts, terms, and conditions that must be Sharia-compliant, Islamic financial institutions have a greater need for restrictions. Internal and external constraints include technical challenges with the underlying technology, public perception, and government legislation.

To maximize opportunities and overcome challenges in implementing the blockchain system in zakat, several strategies are needed. First is the improvement of human resources through literacy and training. Second is the issuance of regulations related to the application of blockchain to zakat. Third is the improvement of the blockchain ecosystem in Indonesia. This strategy must involve all zakat stakeholders such as the government, Ministry of Religion, Baznas, community organizations, and zakat management institutions.

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