

PRIMARY RESEARCH

Use of Blockchain Technology in Addressing the Issues in *Zakāh* Collection and Disbursement in Pakistan: A Conceptual Model

Mahnoor Jadoon ^{1*}, Hamid Hasan ²

^{1, 2} International Institute of Islamic Economics, International Islamic University, Islamabad, Pakistan

Keywords

Zakāh

Blockchain Technology

Smart Contract

Zakāh Management

Zakāh Institution

Muzakki

Mustahiq

Received: 01 May 2023

Accepted: 4 November 2023

Abstract.

Purpose: One of the five pillars of Islamic law is *zakāh*, which applies to all qualified Muslims and demands that they contribute a portion of their wealth for benefit of the Muslim community.

Methodology: This study relies on a conceptual approach to describe the role of blockchain technology in *zakāh* organizations. Findings: This study explores the potential of blockchain technology and smart contracts to revolutionize *zakāh* management. By developing a conceptual model, it aims to establish how these tools can enhance transparency, build Muzzaki trust, and ultimately simplify the distribution of *zakāh* funds to deserving recipients.

Significance: *Zakāh* institutions' transparency, competency, and trustworthiness in *zakāh* management are the most important characteristics that influence public willingness to pay *zakāh* through *zakāh* organizations. As a result, incorporating blockchain technology into *zakāh* management can track the status of *zakāh* funds and make the distribution and transaction of funds more transparent.

Practical Implications: The use of blockchain technology would ensure that *zakāh* should reach directly to real *zakāh* recipients in an efficient manner. It will also help the payers and receivers anonymously.

KAUJIE Classification: E12, E15

JEL Classification: D64, L32, O33

*Corresponding author: Mahnoor Jadoon

†Email: mahnoorjadoon1114@gmail.com; ORCID: <https://orcid.org/0009-0003-3604-0637>



INTRODUCTION

In Arabic, *zakāh* literally means “purification” and “growth”. It is a form of alms-giving, or charity, which purifies the soul and benefits society. The obligatory charity is based on a specified percentage of one’s savings or assets. The Qur’ān mentions *zakāh* in *Surah al-Tawba*, verse 60: “The *zakāh* are meant only for the poor and the needy and those who are in charge thereof, those whose hearts are to be reconciled, and to free those in bondage, and to help those burdened with debt, and for expenditure in the Way of Allah and for the wayfarer. Allah has obligated us to do this. Allah is All-Wise and All-Knowing. *zakāh* is one of the Five Pillars of Islam and a key idea in Islamic finance and almsgiving. It illustrates the practice of paying alms, usually to support the less fortunate members of the Muslim society.

There are various Arabic terms used in the context of *zakāh*: The term “*Muzakī*” refers to Muslims who are able to fulfil this obligation and who satisfy the Nisab or minimal wealth condition. The *Mustahiq* are those who are eligible to receive charity donations distributed through the *zakāh* system. They are members of the public, either as people or as organizations, who are in need usually because of financial difficulties, debt, or poverty. *Zakāh* is an obligatory act of charity and one of the five pillars of Islam. A state has the responsibility to collect it from the rich and distribute it to the poor and the needy. However, due to distrust of government and private *zakāh* institutions and organizations, people prefer it to donate directly but they face difficulty in correctly identifying deserving people (Wahb, 2023). There are issues with accurate *zakāh* targeting and sufficient coverage in Pakistan (Hasan & Ali, 2019). According to Sawmar & Mohammed (2021), a person must trust an institution for his *zakāh* compliance for four reasons. These four encompass the company’s level of transparency, stakeholder relations, resource allocation, and leadership attributes. Ghani et al. (2018) emphasized how people view the *zakāh* institutions in the nation. They concluded that any *zakāh* collecting body should place the highest focus on the trust among *zakāh* payers. Miao et al. (2022) state that this approach will raise the public acceptability of *zakāh* while also making it easier for the institution to continue collecting it.

Blockchain technology has been developed and is being used in certain nations to address the aforementioned problems. Since its introduction a few years ago, blockchain technology has played a significant role in numerous industries, including supply chain management, healthcare, and banking. A secure and transparent platform for transactions is being made available to the public using a new technology that is revolutionizing the way transactions are made (Weber et al., 2017). Block-based, publicly accessible transactions recorded in a decentralized manner are called blockchain technology. As to Nor et al. (2017), it is a digital system that is transparent, safe, and unchangeable, and it effectively and verifiably documents interactions between parties. These features enable the use of decentralized blockchain technology in the development of a trust model. A blockchain network is a potential remedy for *zakāh* collecting problems since it relies on strict rules and a consensus method to verify the accuracy of any given past or present state of the system.

The five stages of the *zakāh* management system are *zakāh* planning, *zakāh* collection, organization, distribution, and disbursement. The *zakāh* collection, which is made up of funds donated by *zakāh* payers, is one of the primary sources of funding for the *zakāh*

Foundation. In their findings on *zakāh* collection, ? state that one of the challenges on *zakāh* collection is that *zakāh* payers choose not to pay *zakāh* through the *zakāh* Management System. Literature also discovered that *zakāh* payers are dissatisfied with the current *zakāh* distribution management, which leads to trust issues. The trust issues are also discussed by [Ali et al. \(2017\)](#), and trust is found to be one of the important factors for *zakāh* payers to pay *zakāh* to *zakāh* collection institutions. Thus, the existing trust issues which are caused by the unjustified expenditure ([Sulaiman & Jamil, 2014](#)) and the ineffectiveness of the current *zakāh* Management System rationalizes the need for more advanced, life-changing technological approaches like blockchain. These transactions are indeed legitimate because the primary objective of *zakāh* is the equitable distribution of funds, but it seems like it does not reflect positive results from *zakāh* distributions when there are still some needy local communities that did not benefit from *zakāh* ([Sulaiman & Jamil, 2014](#)).

The development of technology in the twenty-first century has significantly impacted our way of life, including the transformation of payment methods into digital forms. The use of credit and debit cards has eliminated the need for people to dig through their wallets to make purchases. The use of a digital wallet eliminates the risks associated with using credit cards by enabling a person to use their smartphone application as a payment method. Except for operating through an application, the digital wallet is comparable to a payment card. For the purpose of making purchases, the individual funds their virtual wallet. Each type of digital wallet has a different method of operation, whether it uses internet transactions or QR code scanning to establish a connection. The *zakāh* payment landscape has changed in line with technological advancements, so a payer is no longer required to pay at the counter but instead can conduct transactions conveniently from home while adhering to Shari'ah Law. Every Muslim is required to give *zakāh*, or the obligatory alms as outlined in Islam's five pillars, once a year. The responsibility of a Muslim to contribute to *zakāh* based on his wealth under certain circumstances and requirements Blockchain provides an unchangeable, secure, and transparent process, addressing the need to stabilize the non-bank Islamic financial system for *zakāh* activities, as well as the global issue of eradicating poverty and achieving social justice. Another use of blockchain technology is for *zakāh* payment tracking. Since it is a decentralized ledger, it prevents any potential fraud from happening with payments and makes it easier for individuals to track the status of *zakāh* payments that are made ([Bin Khatiman et al., 2021](#)). This will make it easier for charities and recipients to know when money has been sent and when the *zakāh* recipients have received it. The benefits of this introduction include that all transactions would be tracked and may reduce corruption in places where *zakāh* is being collected by governments or NGOs because there is a large presence of independent auditors. To solve the problems of *zakāh* collection and disbursement, in this paper, we will explore how blockchain technology can be used. Blockchain is a decentralized, shared ledger that may effectively and permanently record transactions between two parties. The key idea is that it eliminates the need for a middleman by creating trust between the two parties.

According to research on "E-*zakāh*: Redesign the collection and distribution of *zakāh*," Islamic religious leaders support the development of an E-*zakāh* system in Indonesia. The literature points out that the *zakāh* instrument is not being used to its full potential and

suggests utilizing modern technology in campaigning to address the issue of refugee support in Muslim countries. According to [Mohd Nor et al. \(2017\)](#), the goal of using technology, such as digital wallets, to collect and distribute *zakāh* must align with the preservation of life, intellect, progeny, and wealth as prescribed by Maqasid e Shariah. Currently, it is not common practice to use digital wallets for *zakāh* distribution and collection; hence research is still needed on the use of these technologies and their conformity with Shari'ah, unlike charities ([Salleh et al., 2019](#)). This claim is strengthened even further by the complexity, while still being relatively uncertain nature of blockchain technology. Due to a lack of faith in the government in Pakistan, *zakāh* payers independently pay *zakāh* to *zakāh* recipients. In this context, this study develops a blockchain-based *zakāh* management model to enable more reliable and transparent operations of *zakāh* organizations within blockchain components in a digital and inventive network.

According to [Nor et al. \(2017\)](#), blockchain is a decentralized, open-source database that keeps track of transactions on a public network. It concerns a series of data about user transactions that are kept in blocks, with all blocks containing a certain quantity of encrypted records that have been hashed using cryptography. A user must notify all other network users of any transactions he wishes to execute for them to confirm the validity of the action. There will be copies of the data ledger for each user, making it impossible for any false transactions, fraud, or hacking operations because all transactions are visible and accessible to every user. In addition to offering transparency, trustworthiness, and the possibility of comprehensive and in-depth fund tracing, a blockchain network's decentralized structure lowers the cost of transactions by eliminating several middlemen.

One of the fintech innovations that have the potential to provide a variety of benefits to society is blockchain. A major change in the economy has resulted from the use of blockchain technology in financial transactions, particularly as the basis of Bitcoin. It is a database record for every transaction that is linked to every party, much like the traditional logbook. Every party to the system will verify and concur on every transaction in the ledger. Every input and piece of data cannot be erased, making it transparent and traceable ([Crosby et al., 2016](#)). According to [Rennock et al. \(2018\)](#), the five key properties of blockchain that assist business transactions are real-time data, unchangeable records, anonymity, cyber security risk, and tax implications.

The Potential Use of Blockchain Technology for *Zakāh* Management

Earlier research on the possible blockchain use and *zakāh* management can be examined from the perspectives of *zakāh* collection, management, and distribution. According to, [Beik et al. \(2019\)](#), in terms of *zakāh* collection, *Muzakki* will have the option to select and determine the amount of *zakāh* funds to be distributed to their specified recipients using blockchain. As a result, it will force the institution to create value as it creates trust and good governance. Formerly, *Muzakki* was only able to select one of the eight recipients as a group, and contributions would be distributed to that group accordingly. Instead, *Muzakki* is given the independence to choose any particular recipient through the use of blockchain technology, free from the interference of outside parties ([Elasrag, 2019](#)). Smart contracts

are lines of code incorporated in the blockchain algorithm that are implemented on the blockchain network via cryptographically signed transactions. A smart contract can authorize its permission, provide instruction, and under established parameters. Smart contracts have the ability to operate independently, are unchangeable, and can be distributed. Institutions that handle *zakāh* transactions between *Muzakki* and *Mustahiq* will take on the role of an intermediary platform. [Elasrag \(2019\)](#) asserts that the smart contract's execution gives *zakāh* payers, the manager, the freedom to make informed decisions and assure a smooth transaction. When handling and managing contracts manually, smart contracts in blockchain can reduce time and costs. Probabilities and pre-contract to automatic access systems and involvement from e-commerce to autonomous transaction machines are examples of smart contract cases ([Khairi et al., 2023](#)).

Transparent, traceable, and accessible transactions are features that make using blockchain technology beneficial. [Santoso \(2019\)](#) claims, that these elements may boost *zakāh* payers' trust because they will improve *zakāh* management effectiveness and reduce human error, which will increase the annual collection of *zakāh*. *Zakāh* funds are managed by some institutions in such a manner that are not compliant with the rules. It is difficult to trust *zakāh* organizations, and there is a lack of faith in their capacity to act ethically with *zakāh* funds. Blockchain technology enables *zakāh* donors to follow and trace their contributions from the start to the end. As a result, it will strengthen fund governance and guard against any financial misconduct. A comprehensive report can also be easily made and saved for later use ([Hijriana et al., 2018](#)).

Blockchain technology, according to [Beik et al. \(2019\)](#), reduces costs by eliminating with the need for third parties to manage *zakāh*. The smart contract reduces the expense of using a third party, enabling a more straightforward and efficient transaction ([Elasrag, 2019](#)). The customary transaction of *zakāh* is more expensive because it includes costs for time and energy in addition to the transaction of transferring funds. From collection to distribution, *zakāh* fund monitoring and management will improve effectiveness and transparency ([Santoso, 2019](#)). As a result, *zakāh* participants, particularly *zakāh* beneficiaries, will benefit from a variety of opportunities, as the system thoroughly examines each beneficiary's eligibility. The issue of overlapping recipients is crucial when it comes to *zakāh* disbursement as the same applicants may submit applications for *zakāh* funds in different sections. As a result, the *zakāh* fund distribution will be more effective and less prone to human error with the use of a systematic technological ledger ([Hijriana et al., 2018](#)). There have been numerous complaints about distribution errors where certain beneficiaries received double *zakāh* funds because they applied the funds under different categories; thus, the operational risk can be reduced by using blockchain ([Rahmatika & Hariono, 2018](#)). Furthermore, decreasing transaction time is a measure of efficiency, As a result, beneficiaries will benefit immediately from *zakāh* funds ([Elasrag, 2019](#)). According to [Mohd Alipiah et al. \(2019\)](#), blockchain has the potential to eliminate all transactional constraints.

The majority of platforms are ineffective by design, and there are relatively few official initiatives to make charity systems safe, transparent, and auditable. The process of collecting donations for charities has been attempted to be mapped onto blockchain technology. For

instance, the literature suggested a blockchain-based solution for both offline and online settings. However, they only accept Bitcoin as a form of payment, which prevents donors without crypto wallets from using their platform to make donations. A specialized currency would serve the purpose better than the many other crypto-currencies that are currently available.

Nor et al. (2017) proposed a Sadaqa mechanism for raising charitable funds for disaster relief through crowdfunding. They showed that the recipient must ask the provider for help, and once the recipient approves the transaction, the donation is cancelled. However, relying on the recipient of the request does not make this platform large enough to attract donors, and there is no well-defined process for displaying financial transactions on the network to add transparency to the system. Similarly, Kshetri (2017) presented blockchain technology as a viable solution to the challenges associated with charitable donations. Even though they covered the majority of the challenges experienced by donors and beneficiaries, his research lacked originality and did not offer any comprehensive solutions.

Comparative analysis using blockchain-based solutions and already-existing systems with older technology is another avenue for exploration in this field. According to literature, blockchain technology might be used to revolutionize the charity industry by providing a safe platform. Before using technology, they discussed about potential risks to be aware of. A study that explored the potential of blockchain technology in the current business model. The study focused on how blockchain can create value and facilitate more efficient transactions by raising awareness of its role in maintaining decentralization, fostering trust, and symbolizing liability, as well as by developing a new fundraising mechanism.

METHODOLOGY

Unlike empirical methodologies, conceptual methodology analyzes important concepts and their complex interactions in order to better understand and improve theoretical frameworks. Instead of concentrating on gathering data or drawing empirical conclusions, this approach aims to develop a solid understanding of a particular phenomenon or topic (Flick, 2022). Here, fundamental ideas are analyzed and defined critically to reveal their fundamental characteristics, relationships, and limits (Bowen, 2009). Identifying gaps and topics for additional research, this approach establishes a solid foundation for analysis by significantly referencing pre-existing theoretical frameworks and literature (Bryman, 2016). The conceptual approach, which functions at a more abstract level, places an emphasis on comprehending fundamental processes and mechanisms above specific data and frequently integrates many viewpoints and interpretations for a more comprehensive, complex understanding (Bowen, 2009).

We used a conceptual approach based on a thorough literature study to bridge the research gap on combining blockchain technology with customary religious practices like *zakāh*. Conceptual frameworks serve as lenses, directing our attention to important ideas, variables, and the numerous interactions that exist within a subject. This clarity keeps research from deviating into irrelevant area, ensuring that each step forward leads to coherent knowledge

(Van der Waldt, 2020). Ravitch & Riggan (2016) use a conceptual framework to avoid ambiguity and confusion by laying out a clear framework and direction, which promotes consistency and makes it easier to communicate with other researchers.

According to literature, the process of doing a systematic review of the literature can lead to the generation of novel concepts, new alternatives, and fresh research ideas and hypotheses. Through this in-depth research, we were able to foresee how the key principles of *zakāh*—trust, accountability, and transparency—could coexist peacefully with the characteristics of blockchain, such as immutable distributed ledgers and transparent smart contracts. Through an analysis of the potential interactions between distributed ledgers and blockchain technology and the current frameworks for *zakāh* collection and distribution, we hope to recognize specific areas where these technologies could boost donor confidence, streamline operations, and cut down on administrative burdens.

RESULTS & DISCUSSION

It is found that the *zakāh* fund is collected and disbursed in Pakistan without the use of any technology; instead, the process is based only on a bank transfer to the account or a cheque sent out to the address provided on the website. This demonstrates that there is space for technological application by organizations dealing with *zakāh*. The type of technology that's been employed in various parts of the world and that could be used in this regard is provided in this section of the paper.

This study shows that *zakāh* payments to people can be made digitally. This is so that *muzakki* can easily access these platforms whenever and wherever they want using laptops and smartphones. Indirectly, *zakāh*'s digitization will boost public trust in *zakāh* institutions. *Muzakki* can easily discover where his *zakāh* is dispersed. This is significant because a contributing factor to the low *zakāh* collection in Pakistan and other nations is a lack of public confidence in *zakāh* institutions. With the various services provided by digital *zakāh*, it is hoped that the general public will be more inclined to pay their *zakāh* to *zakāh* institutions; as for distribution and management, *zakāh* institutions can employ the blockchain concept.

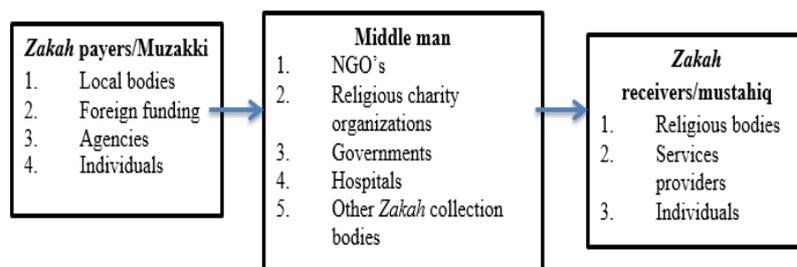


FIGURE 1. *Zakah* Collection System

Thus, *zakāh* institutions can compile their distribution program with complete *muzakki*

and *mustahiq* data. Every incoming and outgoing transaction will be documented and saved in digital storage, enabling transparent *zakāh* management and distribution. The *zakāh* funds will then be adequately monitored, and it will be possible to determine whether the *zakāh* distribution is on target or not.

Figure 1, shows the existing *zakāh* collection system, which is unsuccessful at building trust with the *muzakki* because the bodies involved in the process have no control over it. Instead, the *muzakki* pay their *zakāh* to middlemen, which could be a government agency, a hospital, a religious charity collection body, or an NGO. This is especially true of Islam, where paying *zakāh* is obligated. The lack of direct contact between *muzakki* and *mustahiq*, which results in ineffective subsystems and ambiguous claims that donations were delivered to recipients, is another problem with the current system. The *muzakki* are therefore unaware of how their *zakāh* money was used.

It's interesting to note that another important source for *zakāh* collection is individual donations. The major contributors to the total *zakāh* collection are the populations as a whole. Unfortunately, as far as individual giving is concerned, *zakāh* collection is declining as a result of a decreasing level of trust. The main cause of the aforementioned issues is a lack of transparency in the *zakāh* collection process. Individual donations are also dropping as a result of a lack of confidence in the *zakāh* collection procedure, while institutions are often held responsible for the misuse of donations.

It considers the need to address these issues to make the collection and spending of *zakāh* transparent to *zakāh* payers. A system based on the blockchain that, at its core, offers a platform to do away with the middleman's job in the *zakāh* collection and spending process could satisfy this need by making the process transparent and gaining the *muzakki*'s trust. Technically, blockchain's decentralized structure renders it tamperproof and gives it the power to completely upend all industries dealing with transactional data, and requiring the authenticity of digital data makes them ideal for collecting *zakāh*. The smart contracts not only offer security but there are also numerous more applications designed to assure the security of transactions made through the blockchain, thus increasing donor trust. Smart contracts, that help implement business logic, and consensus protocols, which offer feedback and transparency procedures in addition to speed, cost-effectiveness, security, and reliability, are supporting elements. Blockchain prevents unauthorized individuals from unlawfully accessing or changing data, which is important for an organization trying to win the trust of donors. Only the trusted entity can access or delete data once it has been added to the blockchain. The timely delivery of donations to those in need is equally important, and in cases of disasters like floods and earthquakes, victims must receive aid fast. Blockchain technology guarantees that transactions will not require a long time to move funds to individuals in need by providing immediate feedback on how funds are being used between contributors, less fortunate individuals, and organizations. As a result, blockchain seems to be a very suitable technology for establishing and constructing a charity system due to its robust security features and decentralized nature. The essential components of this ecosystem are privacy and identification, financial transactions, wallets, exchanges, decentralized applications (DApps), distributed storage, distributed ledger, miners, and the enabling framework for

DApp development on the *zakāh* collection blockchain. Since the process of collecting donations for charities involves money, strong security, and user data privacy are required. Meanwhile, a key part of the blockchain ecosystem, secure identity and privacy, makes it the ideal technology for collecting the *zakāh*. An unchangeable blockchain can record a safe money trail, and the blockchain ecosystem includes wallets, exchanges, and initial coin offerings (ICOs), all of which are important elements of managing and moving digital cash. Along with these essential components, blockchain offers the infrastructure needed for the creation of DApps, which act as an intermediary between its users—in this case, contributors and recipients.

A Comprehensive Framework for *Zakāh* System

In this study, an advanced technology called blockchain is used to manage the *zakāh* fund for the *Mustahiq* in a safe, transparent, and effective manner. With the use of the blockchain's traceability features, this technology increases system transparency by letting *Muzaki* track their contributions' progress and receive notifications when they have been delivered to their intended recipients (*Mustahiq*). The framework is illustrated in the figure 2.

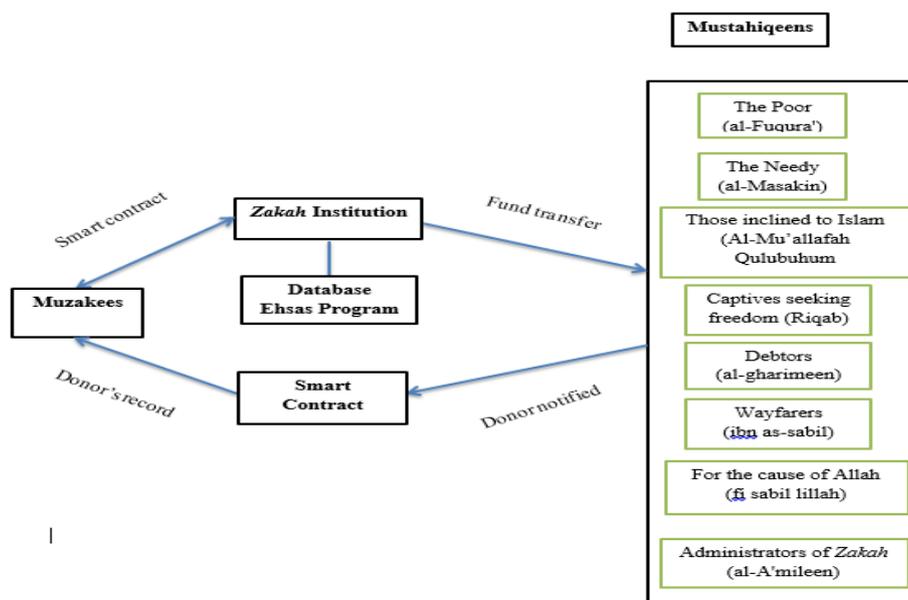


FIGURE 2. Proposed Framework

Figure 2, demonstrates that blockchain-based *zakāh* involves three parties: (1) *muzakki* (donors), (2) *zakāh* institutions that manage *zakāh* and require better managerial and entrepreneurial skills to optimize *zakāh* funds, and (3) *Mustahiqeens* (beneficiaries). *Zakāh* fund management should prioritize eight eligible community groups to improve the ummah's economic and social conditions. Three main parts make up the *zakāh* blockchain framework:

1. the layer of data that contains transaction and event records.
2. The access control layer, which enables users to conduct independent data queries and receive timely reports containing significant data.

3. The trust layer, which offers the tools required for the global community to participate in, dispute, and monitor all *zakāh* transactions globally through a decentralized governance system.

By utilizing smart contracts, this research offers a safe, open, and effective framework to administer *zakāh* payments for the underprivileged. With the help of the blockchain's traceability features, this technology increases system transparency by letting *muzakki* track the progress of their *zakāh* and receive notifications when it reaches the *mustahiq*. When a *muzakki* makes a payment, smart contracts secure the transaction and provide proof of work. *Muzakki* has the option of paying *zakāh* to one of eight *zakāh* beneficiaries. When a payment is locked by a smart contract, it cannot be altered, and the *muzakki* can monitor it by looking for a sign of the *mustahiq*. The blockchain platform notifies the *muzakki* once the *mustahiq* receives the *zakāh*, and the nodes are updated to reflect each entry. In the meantime, payments are secured using smart contracts. A smart contract is nothing but a computer program that allows the blockchain to perform reliable transactions in a decentralized system without the involvement of third parties. To prevent *zakāh* funds from being used for unlawful purposes, *zakāh* funds are kept segregated and cannot be accessed unless they have been acknowledged by one of the recognized authorities, such as the *mustahiq*. Every transaction is monitored by the entire system, which is transparent and works in the interests of outside authorities, such as the government, who can intervene if they notice any unusual events or behaviors. Fig. 2 demonstrates how the use of smart contract-based blockchain technology can improve the existing *zakāh* systems.

The failure to pay *zakāh* is one of the main factors contributing to the extreme poverty allegedly prevalent in Muslim societies. This is because people who have fulfilled the standards to be required to pay *zakāh* are not able to be recognized. Identifying the money that *muzakki* possess and, hence, whether or not it is their obligation to pay *zakāh* would be made possible by blockchain technology's transparency and dependability, with a smart contract monitoring the calculation and transfer of the funds. The main goal for *zakāh* collection and disbursement is to gain the donors' trust. However, this factor is decreasing more and more, which has led to a decline in individual giving trends in recent years. In this regard, the smart contract-based Blockchain provides a solution by restricting unauthorized network access and data modification. *Muzakki* will be able to monitor where and why the funds are being transferred through the smart contracts employed on blockchain networks. Blockchain technology will be used to precisely track funds raised to determine when and how they are used. As a result, the procedure will be traceable, verifiable, and irreversible, all essential elements of a successful *zakāh* collection system (Elasrag, 2019). The *muzakki's* large amounts of wealth on which *zakāh* is owed and the resulting difficulty in calculating the proper amount of *zakāh* to be paid are two of the main issues that are thought to be preventing them from properly fulfilling their *zakāh* obligations. Accounting will be automated, eliminating this task as a barrier, using blockchain's open access to each node's data and the smart contract built into the model that certifies that nisab will be calculated automatically. Donations must reach the poor person on time when situations like emergencies, conflicts, epidemics, and the newly discovered COVID-19 virus call for immediate action (Farooq et al., 2020).

Natural disasters that Islamic nations are currently experiencing make the delivery of *zakāh* urgently necessary. Blockchain, a decentralized system without a middleman, ensures that this need is met by requiring little time for money to be transferred in an emergency and by providing quick feedback on how money is used between the *muzakki*, *mustahiq*, and the *zakāh* management institution. *zakāh* management is a complicated process that calls for institutional knowledge as well as managerial and academic expertise in the field of sharia. A significant percentage of these skill issues and any potential mistakes can be avoided by automating the entire system using proposed blockchain technology and smart contracts. Every process will be automated after the system has been set up, saving a tremendous amount of money and time.

Conclusion

The *zakāh* collection techniques now in use are ineffective and complicated. As a result, there is an urgent need for a more transparent platform for managing *zakāh* that can record and monitor every transaction and allows donors to see how their money has been used, and also allows for government auditing of the entire system. In this article, we offer a solution to these issues: a blockchain-based platform for *zakāh* collection that is open to donors and audits from legal authorities. In this research paper, we have made an effort to highlight the significance of blockchain technology and the usage of smart contracts in the management of *zakāh* by creating a paradigm that combines elements of blockchain technology, smart contracts, and the *zakāh* management institution. From a technological and Shariah standpoint, we have seen benefits and features that strongly support the possible application of blockchain in *zakāh* management. However, when it comes to Shariah conformity with specific technological components, such as smart contracts, Islamic scholars will have to make precise and explicit final verdicts, to develop future models for *zakāh* or any other branch of Islamic finance. The study's results and analysis can be utilized by *zakāh* institutions' policymakers to improve *Muzakees'* degree of confidence by utilizing blockchain technology. The proposed research model can also be applied to investigate trust-related issues in *zakāh* institutions. Consequently, this would aid in optimizing the amount of *zakāh* money gathered in the near future. Since this is a conceptual work, no empirical data is presented. The survey method could be used in future studies to verify and assess the suggested model's prediction ability.

References

- Ali, M. A. M., Khamar Tazilah, M., Shamsudin, A. I. B., Faisal Shukri, F., Nik Adelin, N., & Zainol Zaman, W. (2017). Factors that influence the zakat collection funds: a case in kuantan. *SEAJBEL*, 13(1), 30–37.
- Beik, I. S., Nurzaman, M. S., & Sari, A. P. (2019). Zakat standard framework of halal cryptocurrency. *Halal Cryptocurrency Management*, 275–284. doi: https://doi.org/10.1007/978-3-030-10749-9_17.

- Bin Khatiman, M. N. A., bin Ismail, M. S., & Yahya, N. (2021). Blockchain-based zakat collection to overcome the trust issues of zakat payers. *International Journal on Perceptive and Cognitive Computing*, 7(1), 53–58.
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40. doi: <https://doi.org/10.3316/QRJ0902027>.
- Bryman, A. (2016). *Social research methods*. Oxford University Press.
- Crosby, M., Pattanayak, P., Verma, S., Kalyanaraman, V., et al. (2016). Blockchain technology: Beyond bitcoin. *Applied Innovation*, 2(6-10), 1–19.
- Elasrag, H. (2019). *Blockchain for islamic finance: Obstacles & challenges*. Hussein Elasrag.
- Farooq, M. S., Khan, M., & Abid, A. (2020). A framework to make charity collection transparent and auditable using blockchain technology. *Computers & Electrical Engineering*, 83, 106588. doi: <https://doi.org/10.1016/j.compeleceng.2020.106588>.
- Flick, U. (2022). *An introduction to qualitative research*. SAGE.
- Ghani, E. K., Aziz, A. A., Tajularifin, S. M., & Samargandi, N. (2018). Effect of board management and governmental model on zakat payers' trust on zakat institutions. *Global Journal Al-Thaqafah*, 1, 73–86. doi: <https://doi.org/10.7187/GJATSI2018-05>.
- Hasan, H., & Ali, S. S. (2019). The impact of zakah transfer on multidimensional poverty: The case of pakistan. *Journal of Islamic Business and Management (JIBM)*, 9(1), 84–97.
- Hijriana, S., Nugroho, V. A., et al. (2018). Role of financial technology in zakah optimization. In *Indonesian conference of zakat-proceedings*.
- Khairi, K. F., Laili, N. H., Sabri, H., Ahmad, A., Pham, V. H., & Tran, M. D. (2023). The development and application of the zakat collection blockchain system. *Journal of Governance & Regulation*, 12(1), 294–306. doi: <https://doi.org/10.22495/jgrv12i1siart9>.
- Kshetri, N. (2017). Will blockchain emerge as a tool to break the poverty chain in the global south? *Third World Quarterly*, 38(8), 1710–1732.
- Miao, M., Jalees, T., Zaman, S. I., Khan, S., Hanif, N.-u.-A., & Javed, M. K. (2022). The influence of e-customer satisfaction, e-trust and perceived value on consumer's repurchase intention in b2c e-commerce segment. *Asia Pacific Journal of Marketing and Logistics*, 34(10), 2184–2206. doi: <https://doi.org/10.1108/APJML-03-2021-0221>.
- Mohd Alipiah, F., Albasri, S. H., Mohd Saufi, M. S. A., et al. (2019). Information technology from the perspective of maqasid al-shariah. *European Proceedings of Social and Behavioural Sciences*.
- Mohd Nor, R., Rahman, M., Towfiqur, R., & Abdullah, A. (2017). Blockchain sadaqa mechanism for disaster aid crowd funding.

- Nor, R. M., Rahman, M. H., Rahman, T., & Abdullah, A. (2017). Blockchain sadaqa mechanism for disaster aid crowd funding. In *Proceedings of the 6th international conference on computing and informatics: Embracing eco-friendly computing, kuala lumpur* (pp. 25–27).
- Rahmatika, A. N., & Hariono, T. (2018). Risk management of zakat maal supervision in the fintech era based on literature review. In *Indonesian conference of zakat-proceedings*.
- Ravitch, S. M., & Riggan, M. (2016). *Reason & rigor: How conceptual frameworks guide research*. Sage Publications.
- Renneck, M. J., Cohn, A., & Butcher, J. R. (2018). Blockchain technology and regulatory investigations. *Practical Law Litigation*, 1, 35–44.
- Salleh, W. N. A. W. M., Rasid, S. Z. A., & Basiruddin, R. (2019). Towards transforming zakat collection and distribution roles using digital wallet in support of social justice and social financing. *Open International Journal of Informatics*, 7(2), 95–103.
- Santoso, I. (2019). *Strategy for optimizing zakat digitalization in alleviation poverty in the era of industrial revolution* (Vol. 4) (No. 1).
- Sawmar, A. A., & Mohammed, M. O. (2021). Enhancing zakat compliance through good governance: a conceptual framework. *ISRA International Journal of Islamic Finance*, 13(1), 136–154. doi: <https://doi.org/10.1108/IJIF-10-2018-0116>.
- Sulaiman, H., & Jamil, N. (2014). Information security governance model to enhance zakat information management in malaysian zakat institutions. In *Proceedings of the 6th international conference on information technology and multimedia* (pp. 200–205. doi: <https://doi.org/10.1109/ICIMU.2014.7066630>).
- Van der Waldt, G. (2020). Constructing conceptual frameworks in social science research. *TD: The Journal for Transdisciplinary Research in Southern Africa*, 16(1), 1–9.
- Wahb, Y. A. (2023). The use and misuse of zakāh funds by religious institutions in north america. *Religions*, 14(2), 164. doi: <https://doi.org/10.3390/rel14020164>.
- Weber, I., Gramoli, V., Ponomarev, A., Staples, M., Holz, R., Tran, A. B., & Rimba, P. (2017). On availability for blockchain-based systems. In *2017 IEEE 36th symposium on reliable distributed systems (SRDS)* (pp. 64–73. doi: <https://doi.org/10.1109/SRDS.2017.15>).
