Trust Enhancement in Zakat Institutions using Blockchain Technology: A Qualitative Approach

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Abstract—There is an indication that zakat institutions are inefficient and lack transparency in terms of distributing and managing their funds. This leads to a lack of trust between Muzakke and zakat institutions; hence, they prefer to pay zakat to Mustahiq directly. This means that zakat institutions may be collecting far less in zakat funds than the maximum amount that is potentially available. Meanwhile, the invention of blockchain technology has disrupted the financial sector as it offers transparency in transactions, meaning intermediaries are no longer needed. The use of blockchain in zakat management is important for improving transparency in the distribution of zakat. The objective of this paper is to explore the determinant factors that influence trust in zakat institutions using blockchain technology as a mediating effect. The results of the literature review revealed that these factors are reputation, satisfaction with zakat distribution, service quality and disclosure practice. This study expects that trust in zakat institutions can be enhanced through the use of blockchain technology.

Keywords: Blockchain, Zakat, Trust, Zakat institution

I. INTRODUCTION

Zakat is one of the financial tools and resources used in Islamic economic development. Zakat funds are designed to help people or communities in need and every Muslim’s responsibility to pay zakat forms part of their worship and duties. The goal of the Zakat Fund is to minimize economic gaps among communities, which is only achieved if zakat institutions succeed in collecting large amounts of zakat. According to Act No. 23, 2011, zakat management in Indonesia is carried out by two institutions, namely The National Amil Zakat Agency (Badan Amil Zakat Nasional – BAZNAS) and The National Amil Zakat Institution (Lembaga Amil Zakat – LAZ). BAZNAS manages zakat at the national level and is formed by the government, while LAZ is formed at the community level and is responsible for the collection, distribution and utilization of zakat. To assist in the collection of zakat, BAZNAS formed a separate organization, the Zakat Collection Unit (UPZ) as noted by Andayani, Hanum, Zenaal, Asmita, Darmayanti, Fahrudin & Kardiman [1].

Poverty is one of the many problems facing Indonesia. Zakat has been proven to be effective in reducing or eradicating poverty, with prominent examples from the era of the Second Caliph of Islam, Hazrat Umar bin Khattab (R.A) and of Umar bin Abdul Aziz, who was the First Caliph of Islam for just over one year (99-101H) as noted by Hudayati & Tohirin [2]. As such, Zakat, along with Infaq, Waqf and Sadagah, is an example of Islamic philanthropy that has a significant impact on alleviating poverty. As set out in Law No. 23 of 2011, BAZNAS is the agency or institution responsible for the overall management of zakat in Indonesia.

As the most prominent Muslim country globally, Indonesia has the potential to collect a large amount of zakat funds. According to the BAZNAS report of 2017, Indonesia boasted a potential zakat fund of Rp 286 trillion. BAZNAS collects many types of zakat, including from households, private companies and state enterprises, in the form of deposits and savings. However, the entire zakat operation collected only Rp 3.7 trillion in 2015, thus indicating a significant difference between the actual and potential amounts collected as noted by Firdaus, Beik, Irawan & Juanda [3], meanwhile, found that the total size of the zakat fund could potentially reach Rp 217 trillion (combined amount from households, industries and deposits). This figure equates to 11.45% of Indonesia’s national income from 2018. However, data from BAZNAS in 2017 show that the total zakat collection in 2016 amounted to only Rp 5 trillion.

Currently, the amount of zakat funds collected lags far behind its potential, which in turn means that the amount of
funds distributed automatically to eight Asnaf (Mustahiq) is not optimized. Many factors explain why BAZNAS has not received the maximum amount of funds available. One issue is a distrust of zakat institutions among the Mustakee as reported by BAZNAS [4]. This distrust stems partly from skepticism among the Mustakee concerning the ability of zakat institutions to distribute and manage their funds efficiently, due to a lack of transparency as reported by BAZNAS [4]. Thus, many Mustakee continue to pay zakat directly to the Mustahiq. These issues must be urgently addressed to further optimize the zakat collection.

Several previous studies have examined the use of blockchain in zakat management as a way of improving trust in zakat institutions. These studies include Bek, Nurzaman & Sari [5]; Rejeb [6]; Nienhaus [7]; Nor, Abdul-Majid & Esrati [8]; Zulfikri, Kassim, & Hawariyuni [9]. These studies focused predominantly on the creation of a model and mechanism for implementing blockchain in zakat management, but none measured the effect of blockchain technology on influencing trust in zakat institutions. Hence, this study attempts to fill this gap by measuring the effect of blockchain technology in improving trust in zakat institutions using a qualitative approach and by developing a conceptual model.

II. LITERATURE REVIEW
A. Blockchain technology

Blockchain is a type of digital currency based on cryptography that was developed by Satoshi Nakamoto in 2008 as noted by Abubakar, Ogunbado, & Saidi [10]. However, Kamaruzaman, Yassin, Zabidi, Zunan, Rizman, Baharom & Wahab [111] argued that Satoshi Nakamoto is a fictitious name. Nakamoto published a paper entitled ‘Bitcoin: A Peer-to-Peer Electronic Cash System’ describing a peer-to-peer version of electronic cash that would enable online payments to be sent directly from one party to another, with no need to pass through a financial institution or intermediary as concluded in Crosby, Nachiappan, Pattanayak, Verma, & Kalyanaraman [12].

While the bitcoin innovation was thrilling and groundbreaking, it was the mechanism behind its flawless operation that was the real story. Soon after Nakamoto’s paper was released, it became clear that the core mechanical invention was not the digital currency but the technology operating it. As part of the bitcoin operation, Nakamoto also developed a ledger called ‘A chain of Blocks’, which later became the more familiar ‘blockchain’ as noted by Morkunas, Paschen, & Boon [13]. Blockchain and bitcoin are therefore linked as blockchain is the public ledger used for bitcoin currency as noted by Zubaidi & Abdullah [14].

Blockchain is essentially a decentralized transaction ledger that can be used to create, authorize and send transactions to other nodes within the same network as noted by Tama, Kweka, Park, & Rhee [15]. It combines the basics of cryptography, peer-to-peer networking and game theory. While blockchain was created to track the database underlying the cryptocurrency, which is bitcoin, it is now commonly regarded as a distributed ledger with a software algorithm to record transactions as a chain of blocks safely and anonymously as noted by Laroiya, Saxena, & Komalavalli [16].

Although blockchain is often linked solely to bitcoin, many other blockchain applications have been developed since Nakamoto first introduced it. Despite being a ledger for digital currencies, the use of blockchain as an application has extended further to impact the economy, financial sector and beyond as noted by Crosby, Nachiappan, Pattanayak, Verma, & Kalyanaraman [12]; Zubaidi & Abdullah [14]. According to Lakhani & Iansiti [17], blockchain has gained significant recognition to potentially become the new Internet and is proving transformative in terms of enabling organizations to modify how they both generate and take value.

Since its initial development, blockchain has grown in popularity as a tool with a decentralized transaction ledger that can be used to register, confirm and send payments or contracts. The use of blockchain technology has also extended far beyond financial transactions to include a much broader range of transactions and applications such as healthcare, utilities, real estate and government as noted by Christidis & Devetsikiotis [18]. Wang, Zheng, Xie, Dai, and Chen [19] acknowledged that while blockchain is famous for bitcoin, it can also be applied to diverse applications beyond cryptocurrencies as it enables payments to be made with no involvement from banks or any intermediary. With this in mind, Morkunas, Paschen & Boon [13] stated that blockchain is expected to disrupt existing business models and propose new value creation.

B. Trust in Zakat Institutions

Trust plays a crucial role in society as noted by Abdul-Rahman & Hailes [20]. Previous researchers have described trust as ‘general trust for others’. Saidi [21], meanwhile, stated that the role of zakat institutions in providing a quality service to the community is an essential factor in attracting and encouraging entrepreneurs to pay zakat.

As a non-profit organization, trust is an essential foundation for BAZNAS to achieve its objectives. Handriana [22] reported that the intention of Mustakee to maintain LAZ is influenced by their trust in the institution. Yang, Brennan, and Wilkinson [23], meanwhile, asserted that a trustworthy charity meets the public’s expectations. Hence, both LAZ and BAZNAS must work tirelessly to both examine and meet the demands of the public in order to gain their trust. In this way, the presence of trust will strengthen the commitment of Mustakee to pay zakat to zakat management institutions and thus maintain the sustainability and life of the programme. If they have trust in LAZ, people become more confident that their zakat funds will be paid to zakat institutions.

An examination of the relevant past studies reveals that trust is influenced by reputation, satisfaction with zakat distribution and the quality of the service provided. Zainal, Abu Bakar & Saad [24] showed that the greater the reputation, satisfaction with zakat distribution and service quality factors, the higher the trust of stakeholders in zakat institutions, and vice versa.
C. Reputation and Trust in Zakat Institutions

Reputation has a significant effect on trust in zakat institutions as noted by Mukhibad, Fachrurozie, & Nurkhin [25]. The concept of reputation in a non-profit organization has been widely explored in the economic and sociological literature and given numerous definitions. Reputation can be defined as the accumulated stakeholder assessment of an organization that develops over time and is a result of consistent performance and communication as noted by Gray & Balmer [26]. Richard and Zhang [27], in their study, defined reputation as the overall perception of stakeholders of the company’s performance over time. This is in line with the definition from the Concise Oxford Dictionary, as cited by Zainal, Abu Bakar & Saad [24], that reputation constitutes what is generally said or believed about the character or standing of a person or thing.

Meanwhile, Abratt and Kleyn [28] identified that citizens trust a company based on past product experience and the company’s reputation. As such, the company’s reputation is the final determinant in meeting consumer expectations and demands as noted by Abratt & Kleyn [28]. Extending this, reputation has a significant influence on trust in zakat institutions.

D. Satisfaction with Zakat Distribution

Customer satisfaction is the key to an organization’s success, which is especially relevant in the case of service-based organizations. According to Oliver [29], satisfaction can usually be viewed as an evaluation of the market in terms of the extent to which the preferences of the customer match the actual service rendered by an organization. Satisfaction with the distribution of zakat should be improved to maintain the performance of zakat and thus encourage Muslims to pay it through the relevant zakat institutions as noted by Ellany & Lateff [30]. According to Idris & Ayob [31] distrust of zakat institutions leads to non-compliance, especially when that distrust relates to transparency and inefficiencies in the management of zakat distribution. The greater the satisfaction with zakat institutions, the higher the adherence to paying zakat. In accordance with the above claims, a stakeholder who is highly satisfied with the distribution of zakat would be expected to have greater trust in zakat institutions, and vice versa. Therefore, satisfaction with zakat distribution has a significant influence on trust in zakat institutions.

E. Service Quality and Trust in Zakat Institutions

Service quality is closely related to customer satisfaction. According to Gronroos [32], service quality can be defined as how well a service meets the expectation of the customer. Zeithaml [33], meanwhile, stated that service quality refers to a customer’s overall assessment of the advantages and value of the product or service. Service quality is measured using a small number of evaluative dimensions that have met previous research expectations. Parasuraman, Zeithaml, & Berry [34] point to the use of SERVQUAL as a measurement of service quality. In the SERVQUAL model, service quality is made up of the five dimensions of reliability, responsiveness, assurance, empathy and tangibles.

To maintain the efficiency of zakat, zakat institutions must increase the amount of zakat payments as noted by Zainal, Abu Bakar, & Saad [24]. Previous studies reported various findings regarding satisfaction with zakat distribution. Among these, Md. Idris & Ayob [31] noted that widespread non-compliance was caused by the poor administration of zakat-by-zakat institutions in terms of their transparency and efficiency. As such, greater levels of satisfaction with zakat institutions were more strongly correlated with higher zakat compliance. In line with the above arguments, it is expected that a high level of satisfaction among stakeholders will lead to greater trust in zakat institutions. Therefore, service quality has a significant influence on trust in zakat institutions.

F. Disclosure Practice and Trust in Zakat Institutions

Financial statements serve as a reliable means of assessing the success of the management and financial condition of an organisation, as noted by Samargandi, Tajualifin, Ghani, Aziz & Gunardi [35]. These financial statements contain information that is valuable for various people and it is therefore the responsibility of the zakat board of management to ensure their credibility as documents as noted by Karim [36]. As the primary shareholders in non-profit organizations, donors and investors turn to published financial statements as their main source of information. Zakat institutions must disclose a wide range of financial and other related details related to their expenditure. This information is necessary to demonstrate the credibility of the organization as noted by Zabri & Mohammad [37].

A significant difference often exists, however, between the size of the potential zakat fund and the amount of zakat actually received by zakat institutions in Indonesia. Problems with zakat funds resulted from mistrust in zakat institutions due to the lack of the financial information that they provide. This information is needed when making decisions on whether zakat institutions should be trusted to obtain, use and distribute zakat funds that have been entrusted to them by zakat payers as noted by Mediawati [38].

Meanwhile, Jayanto, Jayanto, & Munawaroh [39] stated that the disclosure of financial statements is expected to enhance the public’s reasoning agility and increase their interest in paying the zakat profession. The transparency of zakat institutions has a significant effect on Muszakat due to the close relationship between transparency and the receipt of zakat funds as noted by Jayanto, Jayanto, & Munawaroh [39]. Transparency entails the disclosure of information to stakeholders concerning the use of funds. Schnackenberg & Thorsilison [40] identified three main elements of transparency: information disclosure, clarity and accuracy. Based on this, it can be concluded that disclosure practice has a significant influence on trust in zakat institutions.

G. Mediating Effect of Blockchain Technology

Blockchain is a technology that offers the potential to significantly improve the traceability of food-related products not only for companies but also consumers and policymakers. Blockchain facilitates the establishment of a distributed network that holds records of digital assets in a decentralized
manner. Abojeib & Habib [41] highlighted the continuous efforts being made to apply blockchain technology in the social and financial system based on the system’s good governance, low transaction costs and high transparency.

Given their role in building a strong zakat environment, the amil zakat (zakat officer) is critical to the collection of zakat funds. Hamdani [42] asserted that at least four factors contribute to a plentiful zakat collection that can alleviate poverty and bring prosperity to the people. These factors include the Amil, who must be trustworthy, professional, fair and responsible. Blockchain, for its part, makes processes traceable, auditable and irreversible, which is the most important aspect of successful philanthropy. Based on this, it is expected that blockchain technology has a significant influence on trust in zakat institutions.

III. RESEARCH METHODOLOGY

This study is qualitative in nature. It utilized an extensive review of the literature to identify and analyze the relevant studies to propose the conceptual model. The systematic review of the literature promotes new ideas, the discovery of new alternatives, and the development of new hypotheses and research proposals, as noted by Fiegen [43].

According to Khan [44], the process of conducting a systematic literature review includes framing questions for review; identifying relevant literature; assessing quality, summarizing evidence, and interpreting findings.

To perform systematic literature review, this study used Google Scholar and Emerald Insight database. The papers retrieved from reputed journal databases range from 2015 to the present, focusing on the use of blockchain in zakat management. Books and book chapters also were included in the analysis. The analytic results of this literature review produce a conceptual framework.

IV. RESULTS AND DISCUSSION

This study develops an initial conceptual framework of factors influencing trust in zakat institutions with blockchain as mediating variable. We examine the literature in the context of trust and blockchain technology.

Reputation

Reputation has significant effect on trust in zakat institutions. A non-profit organization like BAZNAS needs such a reputation to stimulate the trust of zakat payer. Furthermore, studies have found a positive relationship between reputation and consumer trust as noted by Oladimeji, Har Sani & Akhyar [45]. Therefore, it is hypothesized that Reputation significantly influences trust in zakat institutions.

Satisfaction with Zakat Distribution

Trust in zakat institutions is strongly influenced by the satisfaction of distribution zakat. Mohammed Dahan in Saad, Farouk & Abdul Kadir [46] argued that poor zakat distribution management leads to a bad image of zakat institutions, which in turn affects zakat collection. Meanwhile, Zainal, Abu Bakar & Saad [24] stated that low confidence in Zakat institutions can be attributed to a lack of transparency and inefficiency in zakat distribution. Thus, Satisfaction with Zakat Distribution significantly influences trust in zakat institutions.

Service Quality

As an institution that manages public funds, zakat institutions' credibility is also affected by how their customers perceive their services. In general, service quality can be described as the difference between what customers expect and what they get as noted by Ghani, Said & Syed Yusuf [47]. According to Parasuraman, Zeithaml, & Berry [34]. If service expectations are higher than the service performance, then the perceived quality of the service is less than satisfactory, resulting in customers' dissatisfaction. This finding shows the importance of having a good service delivery (service quality). Therefore, Service Quality significantly influences trust in zakat institutions.

Disclosure Practice

As non-profit organization, BAZNAS need to provide information that is useful to a variety of users including Municipality such as financial statements. The concept of disclosure refers to the perceptions of transparency exhibited by an entity. Information and data produced by companies fall under this category, including financial and non-financial data, quantitative and qualitative data, required or voluntary information, and information produced through formal and informal means. Information may be disclosed through different mechanisms, such as annual reports, press releases, investor relations, periodic reports, brochures, and websites as noted by Hassan & Marston [48].

With regard to zakat institutions, the early practices of Prophet Muhammad (SAW) and his pious successors exhibited transparency with regard to zakat proceeds, particularly regarding their storage and distribution. According to Al-Njami in Sawmar & Muhammad [49], Zakat payers and authorities should embrace transparency hence, Zakat payers are expected to disclose their wealth subject to zakat to zakat collectors.

It is important that information about the activities of zakat institutions be disclosed through annual reports and verified by trustworthy auditors. By viewing the information disclosed, zakat payers may be more inclined to pay zakat in the future since they will have a sense of mutual trust. Therefore, Disclosure Practice significantly influences trust in zakat institutions.

Blockchain Technology

Blockchain technology can optimize trust in zakat institutions by offering transparency. There will only be two parties involved in a blockchain-based transaction. The transaction itself and its decentralized validation. The originality of the blockchain technology is at the level of validation, as there is no third party involved as noted by Chong [50].

Technically, blockchain is distributed, transparent, immutable, validated, secured and pseudo-anonymous. Blockchain data enables one to create an incorruptible and resistant to censorship secure legal identity, referred to as a "trust stamp". Using this technology, smart contracts cannot be
altered or removed after they are written as noted by Chong [50].

Given the advantage of blockchain technology in term of transparency, thus, we proposed the blockchain technology as the mediating effect that could enhance trust in zakat institutions.

Based on the discussion above, this study proposed research model shown in Figure 1. The model postulates that trust in zakat institutions is influenced by Reputation, Satisfaction with zakat distribution, Service quality and Disclosure practice. The framework also postulates that the independent variables are expected to have a direct positive influence on the dependent variable. Meanwhile, blockchain technology strengthens the direct relationship between the independent variables and dependent variable.

![Conceptual Model](image)

**Figure 1.** Conceptual Model. Source: Authors' elaboration

V. CONCLUSION, IMPLICATION AND FUTURE RESEARCH

This paper aimed to explore the determinant factors that influence trust in zakat institutions, where the use of blockchain was expected to enhance this trust. From the literature review, reputation, satisfaction with zakat distribution, service quality and disclosure practice are the determinant factors influencing trust in zakat institutions. In addition, this study suggests that blockchain technology has a mediating effect and is expected to enhance trust in zakat institutions. The proposed research model can be used to conduct further research on trust in zakat institutions' issues, while policymakers in zakat institutions can use the findings and analysis of this study to enhance Muzakkees' level of trust through the implementation of blockchain technology. This, in turn, would help to maximize the level of zakat funds collected in the near future. This paper is conceptual in nature; therefore, no empirical evidence is provided. Further research could use the survey method to validate and examine the predictive power of the proposed model.

REFERENCES


