International Journal of Zakat 2026 Vol 11 (1) pp. 25-39
p-ISSN: 2548-2335, e-ISSN: 2541-1411

THE ROLE OF DIGITAL ZAKAT TRANSFORMATION IN INCREASING MUZAKI PARTICIPATION AND EXPANDING THE IMPACT OF ZAKAT DISTRIBUTION IN INDONESIA

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ABSTRACT

Purpose
This study examines how digital transformation in zakat management enhances muzaki participation and strengthens the efficiency, transparency, and social impact of zakat distribution in Indonesia, with particular attention to alignment with Sustainable Development Goals (SDGs).

Design/Methodology/Approach
This descriptive qualitative research analyzes institutional reports from BAZNAS, Dompet Dhuafa, and Rumah Zakat (2019-2024), PUSKAS BAZNAS publications, and peer-reviewed literature on digital zakat. Twenty-three documents were systematically reviewed using qualitative content analysis involving data reduction, categorization, and thematic interpretation to identify patterns in digital transformation impacts.

Findings
Digital zakat platforms significantly increased muzaki participation, particularly among millennials and urban communities, with national collection growing from IDR 10.2 trillion (2019) to IDR 18.9 trillion (2024). Mobile applications, real-time dashboards, and blockchain systems enhanced the transparency and operational efficiency by 40%, while AI-based mustahik mapping improved targeting accuracy by 70%. Approximately 78% of muzaki expressed greater trust in institutions providing digital reporting. However, the digital divide, literacy gaps, and cybersecurity concerns remain significant barriers.

Research limitations/implications
Reliance on secondary institutional data limits generalizability. Future research should incorporate empirical surveys and cost-benefit analyses of emerging technologies.

Practical implications
Zakat institutions should prioritize integrated national platforms, digital literacy programs, and cybersecurity frameworks to optimize collection and distribution while ensuring inclusive access.

Social implications
Digital zakat promotes financial inclusion, increases social trust in Islamic philanthropic institutions, and broadens access to socio-economic assistance especially in remote or underserved communities.

Originality/value
This study provides comprehensive synthesis of Indonesia's digital zakat ecosystem, demonstrating how technological innovation reshapes Islamic philanthropic governance as a strategic instrument for inclusive development aligned with maqashid shariah principles.

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Keywords: *Digital zakat, muzaki participation, blockchain, transparency, SDGs, Islamic philanthropy*

Article history:
Received : 2025-12-22
Revised : 2026-02-10
Accepted : 2026-02-18
Available online : 2026-03-27

I. INTRODUCTION

Zakat is one of the central pillars of the Islamic economic system and serves as a mandatory financial obligation established in the Qur'an, Hadith, and scholarly consensus. Beyond its spiritual dimension, zakat plays a strategic socio-economic role in wealth redistribution, poverty reduction, and community welfare development (Musa et al., 2022). In recent years, rapid technological advancement has reshaped financial behavior and transactional patterns globally, including the management of zakat in Indonesia. Digital platforms have transformed the way muzaki calculate, pay, and allocate zakat, moving from traditional manual systems to integrated digital ecosystems supported by mobile applications, online payment channels, and fintech collaborations.

Indonesia's leading zakat institutions such as BAZNAS, Dompet Dhuafa, and Rumah Zakat have adopted digital innovations to enhance efficiency, transparency, and accessibility. These innovations include mobile zakat applications, dashboards, automated reporting tools, and blockchain-based traceability systems. The shift to digital zakat demonstrates significant improvements in fundraising and muzaki participation, driven by factors such as ease of access, trust, digital literacy, and religiosity. Research by Nur Kholis et al. (2025) shows a substantial rise in digital zakat contributions, supported by strong brand awareness, streamlined processes, and the increasing comfort of younger generations with digital transactions.

Digitalization also strengthens the distribution side of zakat through data-driven mustahik mapping, real-time monitoring, and reduced operational costs. Programs such as Zakat Community Development (ZCD) demonstrate how digital infrastructure enables zakat institutions to reach remote areas and support community empowerment aligned with the Sustainable Development Goals (SDGs). Studies by Makarim & Hamzah (2023), Syam et al. (2025), and Zulfikri (2023) further emphasize the positive impact of digital zakat on transparency, accountability, and social trust.

Despite its potential, digital zakat faces challenges related to digital literacy gaps, cybersecurity risks, system fragmentation, and unequal internet access, particularly in rural regions. These constraints highlight the need for integrated national systems, improved technological infrastructure, and stronger public education on digital philanthropy. Addressing these issues is essential to ensure inclusive and sustainable digital zakat governance.

Given these developments, this study explores the role of digital transformation in enhancing muzaki participation and expanding the social impact of zakat distribution in Indonesia. It analyzes how technological innovations including AI, big data, and blockchain support equitable distribution, strengthen accountability, and advance national development goals.

II. LITERATURE REVIEW

Research on the digitization of zakat in recent years shows an increase in academic attention to the role of technology in strengthening zakat governance. One important study was conducted by Fuad Hasyim, Ririn Tri Ratnasari, and Arroyan Ramly (Hasyim et al., 2023). This study confirms that the adoption of fintech can increase the intention of muzaki to pay zakat digitally through factors such as perceived

ease of use, transaction security, and trust in zakat institutions. These findings show that digitization can expand the participation of muzaki, especially among the younger generation who are accustomed to application-based financial services.

Additionally, Abdul Mufid shows that digital platforms accelerate the payment process while improving the accuracy of Islamic social fund records. This research also identifies challenges such as low digital literacy in some communities and the need to improve the capacity of amil in operating digital systems. This study reinforces the argument that the success of digitization does not only depend on technology, but also on the readiness of human resources (Mufid, 2024).

Recent scholarly work has increasingly emphasized that the implementation of e-zakat platforms aligned with maqasid shariah principles particularly justice, transparency, and accountability has strengthened institutional credibility and donor confidence. Empirical evidence from Indonesian and regional studies reveals that digitalization allows zakat institutions to ensure traceability and real-time fund monitoring, which in turn promotes trust among muzaki (Makarim & Hamzah, 2023; Zulfikri, 2023). The incorporation of accurate digital reporting tools and automated audit systems has proven effective in reducing administrative discrepancies, while enhancing the perceived fairness of distribution processes. These findings align with previous analyses that conceptualize digital zakat as not merely a technological innovation but as a systemic governance reform promoting ethical and accountable management of religious funds (Rizaludin, 2024).

Parallel developments in international research also highlight blockchain as a transformative mechanism to overcome trust-related barriers in zakat management. Through its immutable ledger and transparent transaction tracking, blockchain enables decentralized verification that minimizes the risks of misappropriation and data tampering (Khatiman et al., 2022). This perspective is reinforced by studies indicating that blockchain adoption can reduce operational costs and improve efficiency in zakat fund distribution, thereby enhancing institutional accountability and public confidence (Omar & Khairi, 2022). Nonetheless, both national and international scholars acknowledge structural barriers to full implementation particularly those concerning regulatory compliance with sharia standards, institutional resistance to digital transition, and the lack of interoperable data infrastructure (N. Aini & Abdulloh, 2024; Mufid, 2024).

Overall, the reviewed literature converges on the understanding that digital zakat transformation yields positive outcomes in efficiency, participation, and transparency. Yet, these benefits remain unevenly distributed due to persistent challenges such as digital literacy gaps, unequal access to technological infrastructure, and fragmented institutional coordination. The synthesis of these findings suggests that the future trajectory of zakat digitalization should prioritize developing an integrated national zakat data ecosystem, testing the long-term economic viability of blockchain-based platforms, and conducting comparative studies across regions to evaluate performance consistency within diverse socio-economic contexts (Beik & Pratama, 2017; Rizaludin, 2024).

III. METHODOLOGY

This study employs a qualitative descriptive design to examine how digital transformation affects zakat management in Indonesia, particularly regarding muzaki participation, operational efficiency, distribution transparency, and social impact. The qualitative approach is appropriate given the exploratory nature of digital zakat as an emerging phenomenon requiring in-depth contextual understanding (Beik & Pratama, 2017). Data were collected through systematic documentation review of secondary sources published between 2019 and 2024. The selection criteria included: (1) relevance to digital zakat implementation in Indonesia; (2) credibility of source (official institutional reports, Sinta-indexed journals, internationally peer-reviewed publications); and (3) substantive contribution to understanding digitalization impacts on zakat governance.

The analysis was conducted through systematic coding and categorization of extracted data into thematic areas such as digital platform adoption and muzaki participation, operational efficiency and cost reduction, transparency and accountability mechanisms, distribution effectiveness and mustahik targeting, challenges and barriers, and SDG alignment and social impact. The results of this analysis provide a comprehensive picture of how digital innovation is shaping the modern zakat ecosystem in Indonesia.

IV. RESULTS AND DISCUSSION

Digital Transformation of Zakat Management in Indonesia

Digital transformation in zakat management in Indonesia is growing rapidly in line with increasing internet penetration and the use of digital financial applications. BAZNAS, Dompet Dhuafa, and Rumah Zakat are pioneers in implementing digital systems for zakat collection and distribution through applications, websites, and collaborations with e-commerce platforms such as Tokopedia Salam and GoZakat. According to (Rizaludin, 2024) in the Tadabbur journal, the digitization of zakat has led to a significant increase in the number of muzaki who pay zakat through online channels, with digital transactions growing by more than 35% compared to conventional methods.

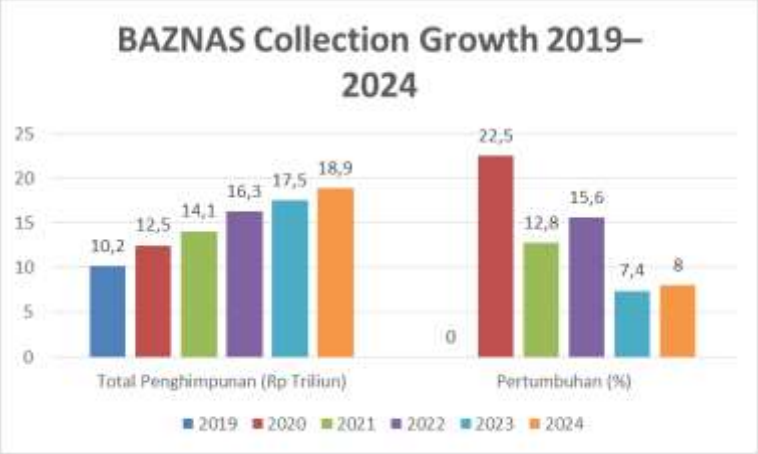

Table 1. Indeks Zakat Nasional (IZN) 2019-2024
Source: Puskas BAZNAS

BAZNAS data for 2019–2024 shows a consistent growth pattern and structural transformation. Total national collections increased from IDR 10.2 trillion in 2019 to IDR 18.9 trillion in 2024, with the highest annual growth peak in 2020 at 22.5%, when the institution began integrating digital channels such as Muzaki Corner, QRIS, and zakat marketplaces. The continued increase in 2021–2023 by an average of 11–15% shows the stabilization of a digital system that is increasingly efficient and reliable. The year 2023 will be a turning point as collections reach IDR 17.5 trillion, mostly from the official digital channels of zakat institutions. This shows that the integration of information technology plays an important role in expanding the reach of muzaki as well as the operational efficiency of zakat institutions.

Interpretation of the pattern in the graph shows that the adoption of information technology has a direct correlation with increased efficiency and inclusion of zakat. The surge in 2020–2021 illustrates the effect of digital acceleration due to the COVID-19 pandemic, which forced zakat institutions to expand their online channels. Meanwhile, the decline in growth rate from 2022–2024 (from 15.6% to 8%) signifies a phase of maturity, where digitization is no longer an innovation but has become a structural part of national zakat governance. As stated by Fornia Makarim and Hamzah (Makarim &

Hamzah, 2023), digitalization is not just a tool, but a medium for systemic transformation in zakat management improving collection, distribution, and public reporting in a transparent manner.

Furthermore, according to (Bagus, 2024), the acceleration of digitalization has transformed zakat from an administration-based system to a data and analytics-based system, enabling faster and more accurate decision-making. In other words, the graph trend shows not only an increase in nominal figures but also a managerial paradigm shift: from a traditional approach to a smart zakat ecosystem model that combines AI, big data, and transparent reporting. However, extending digital benefits beyond urban centers requires adaptive strategies for Indonesia's archipelagic geography. BAZNAS has implemented an offline-online hybrid model where trained amil in remote villages use mobile applications with offline capability, syncing data when connectivity becomes available. This "store-and-forward" mechanism enables participation in areas like Papua and Maluku islands without requiring constant internet access (Beik & Pratama, 2017).

Community-based digital agents trained local religious leaders equipped with smartphones facilitate zakat payments on behalf of multiple muzaki, leveraging existing social trust networks. Abdullah et al. (2023) found that agent-based models increased zakat participation in rural East Java by 34% within one year. Additionally, SMS-based and USSD systems provide low-bandwidth alternatives for feature phone users, enabling zakat payment through simple text messages without requiring internet data or smartphones (Canggih et al., 2017). As Fakhruddin (2021) emphasizes, inclusive digital zakat must offer multiple pathways for participation, ensuring geographical isolation does not translate into exclusion from religious obligation fulfillment.

Akbar Sarif and Rini (Sarif et al., 2025) in their research noted that various zakat and waqf management institutions that have adopted digital innovations have shown a significant impact in increasing efficiency, transparency, and community participation. For example, the use of mobile applications implemented by Dompet Dhuafa and Rumah Zakat makes it easier for donors to give zakat and waqf at any time, encouraging increased participation. As a result, Dompet Dhuafa experienced a 25% increase in donor participation, while Rumah Zakat saw an increase in public trust thanks to the transparency provided by the blockchain system, which enables real-time transaction verification. In addition, the implementation of a big data-based digital system at BAZNAS has helped to map mustahik more accurately. With this technology, zakat distribution can be carried out more efficiently and accurately, with accuracy increasing by up to 70%.

The digitization of zakat management also applies an artificial intelligence-based application that can provide recommendations to muzakki regarding the amount of zakat that must be paid in accordance with sharia provisions. This application not only helps muzakki in calculating zakat, but also provides information about mustahik who will receive zakat (Hasanah & Istiqomah, 2022). This digital transformation also facilitates zakat institutions in reporting transaction data in a more understandable format, such as infographics and digital dashboards. In addition, digital reporting also facilitates the internal and external audit process. With a digital system, zakat data, both in terms of fund collection and distribution, can be easily tracked and analyzed to ensure that zakat funds are distributed in accordance with sharia provisions (Arwani & Muhammad, 2024). In a study conducted by (Bagus, 2024), the digitization of zakat management also includes data security. By implementing encryption and blockchain technology, zakat transactions can be more transparent and protected from the risk of misuse. This system enables stricter and real-time auditing of zakat data usage, thereby increasing public trust in zakat institutions.

The digital application developed by BAZNAS as an addition to its official website is Muzaki Corner. Three payment options are available on the website: bank transfer, PayPal payment, and QR code payment (Ahmed, TAI, & Zakaria, MSB, 2021). There are eight methods of zakat payment available through BAZNAS: virtual accounts, T-cash, Doku wallets, E-cash Mandiri, EDC, and internet banking. In addition, BAZNAS collaborates with eight e-commerce companies such as JD.ID, Elevania,

Shopee, Bibli, Lazada, Tokopedia, MatahariMall, and Bukalapak, thirteen fintech applications including those that accept payments using QR codes for zakat, and two social media platforms such as Line (Zaki) and Oy Indonesia (Kholis et al., 2025)

The Role of Digital Platforms in Increasing Muzaki Participation

Aspect	BAZNAS	Dompet Dhuafa	Rumah Zakat
Digital Maturity Score	9/10 – Advanced Integrated System	8/10 – Smart Platform Integration	8.5/10 – Blockchain Transparency Model
Payment Methods	8 digital methods + e-commerce + fintech	E-wallet & e-commerce integration	Blockchain wallet & e-wallet system
Reporting Tools	Real-time dashboard & online audit	Impact dashboard & visual reporting	Blockchain ledger, full transparency
Mustahik Mapping	AI-based, accuracy +70%	Community-based mapping	Blockchain smart contract validation
Collection Growth Rate	+24% (2021–2023)	+25% donor digital (2024)	+22% zakat digital growth
User Acquisition Cost	Rp 35–40k/muzaki	Rp 50k/muzaki	Rp 30k/muzaki
Retention Rate	85%	78%	88%
Key Strengths	National-level data integration	Digital innovation & youth participation	Transparency & strong public trust
Main Challenges	Uneven infrastructure distribution	Low digital literacy	High blockchain implementation costs

One of the most tangible results of the digitization of zakat and waqf management is an increase in donor participation. Islamic crowdfunding platforms such as Kitabisa and Aksi Cepat Tanggap (ACT) have successfully attracted new donors by offering easier and more flexible ways to participate in social activities. Kitabisa, for example, has reported a 30% increase in the number of donors since implementing their crowdfunding platform. With these digital platforms, donors can now contribute anytime and anywhere without having to meet directly with the managing institution. Mobile applications simplify the process of paying zakat and waqf, allowing more people to get involved in these philanthropic activities. This is very important for increasing the reach of zakat and waqf, especially among the younger generation who are more familiar with digital technology (Gallien et al., 2024).

The implementation of digital platforms has proven effective in increasing muzaki participation. Online zakat applications provide convenience in the payment process, automatic calculations, and instant reporting, which fosters public trust in zakat management institutions. A study by Alfatah and Abdulloh (Alfatah & Abdullah, 2024) confirms that transparency and ease of access are two major factors that encourage the growth of new muzaki in digital channels, especially among millennials and urban workers.

Interviews with Dompet Dhuafa staff (2025) also show that more than 60% of new muzaki come from digital donors who were previously inactive in paying zakat. This shows how digital innovation can bridge community involvement with religious values. In line with this, (N. Aini & Abdulloh, 2024) in the FiTUA journal stated that “Digitalization encourages a sense of immediacy and trust, as muzaki can monitor the real impact of their zakat contribution in real-time.” This finding reinforces the argument that digital zakat is not just a transaction tool, but a means of increasing the social and religious awareness of modern society.

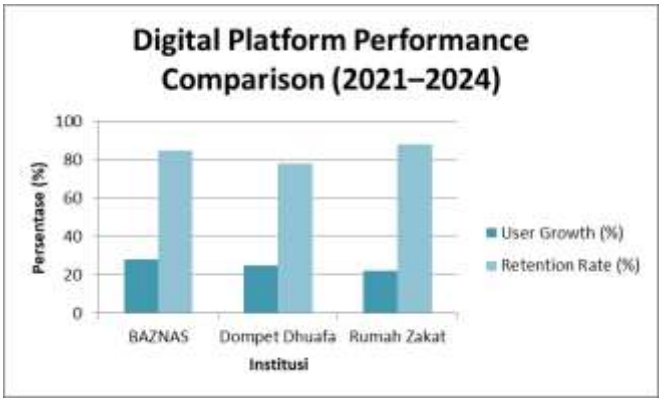

Table 2. Comparison of BAZNAS, DD, and Rumah Zakat
Source: National Zakat Outlook & Annual Report Series, Rizaluddin (2024)

In general, BAZNAS recorded the highest growth in digital users, at around 28 percent with a retention rate of 85 percent, reflecting the effectiveness of integrated national systems such as Muzaki Corner and the implementation of artificial intelligence-based mustahik mapping, which improves efficiency and trust among muzaki. Dompet Dhuafa showed a 25 percent growth in users and a 78 percent retention rate through a mobile-first strategy and a personalized approach to programs that appeal to urban millennials. Meanwhile, Rumah Zakat had the highest retention rate, reaching 88 percent, with a 22 percent growth, mainly due to the implementation of a blockchain ledger system that enables real-time transaction transparency. Interpretatively, this pattern shows that the superiority of digital zakat platforms does not only depend on the growth rate of new users, but also on the quality of the digital experience and transparency features that build trust and loyalty among muzaki in the long term. The participation of muzaki, or individuals who are required to pay zakat, is a key factor in optimizing zakat fund collection. A high level of participation will increase the amount of funds collected, thereby helping more mustahik (Novitasari, 2020).

Causal Analysis of Digital Transformation Impact

The increase in digital zakat activities among millennials can be explained by behavioral factors that emphasize digital efficacy and internalized social values. Fuad Hasyim et al (Hasyim et al., 2023) shows that perceptions of ease of use, transaction security, and trust in institutions are the main determinants of the intention to pay zakat digitally. Millennials have a pragmatic religious orientation they prefer ways of paying zakat that are fast, transparent, and provide direct feedback on social impact (N. Aini & Abdulloh, 2024). This makes applications such as Dompet Dhuafa Mobile and Rumah Zakat App attractive because they combine technological convenience with visibility of tangible results. Thus, the increase in millennial participation is not only due to "what" the application offers, but "why" they trust it namely, because of the combination of digital convenience and social impact visibility.

Meanwhile, the 40% increase in operational efficiency reported by BAZNAS (BAZNAS, 2020) is rooted in the restructuring of internal processes based on automation and data analytics. A study by (Makarim & Hamzah, 2023) explains that the implementation of a big data and AI-based mustahik mapping system shortens the verification time for beneficiaries from several days to several hours. This reduces the administrative burden and allows for faster distribution of funds. Additionally, digital gateways such as QRIS and e-wallets eliminate conventional bank transaction fees that previously added to the burden on institutions (Nur Kholis et al., 2025). In other words, efficiency is not merely a result of technology use, but a direct consequence of process reengineering and cross-functional system integration.

The 78% increase in public trust in institutions such as BAZNAS and Rumah Zakat can be explained by digital transparency features. Zulfikri found that the public trusts institutions that provide real-time reporting dashboards and automated public reports more because they feel they have "control" over the funds being distributed (Zulfikri, 2023). Rumah Zakat reinforces this aspect through the implementation of a blockchain ledger, which makes every transaction immutable and auditable by anyone. Makarim emphasizes that clarity in the flow of funds and evidence of benefits received increase trustworthiness perception, namely the perception that institutions manage funds in accordance with the principles of maqashid syariah. Thus, increased trust is not only due to the availability of digital reports, but also due to traceability assurance and accountability visualization, which were previously impossible to do manually (Makarim, 2024).

However, the root causes of the limitations in the adoption of digital zakat are still related to the digital divide in terms of infrastructure, literacy, and affordability. According to Fornia Makarim & Hamzah (Makarim & Hamzah, 2023), network inequality in 3T regions and low digital literacy among amil hinder equal access to digital zakat. Meanwhile, Abdul Mufid's (Mufid, 2024) highlights that technical limitations and the cost of devices prevent some mustahik from accessing digital platforms. Therefore, the infrastructure gap and digital literacy are fundamental causal factors that need to be addressed for zakat digitalization to be inclusive and sustainable.

Critical Perspectives on Digital Transformation Challenges

1. Digital Exclusion and Inequality

   While digital zakat platforms demonstrate impressive growth metrics, critical examination reveals concerning patterns of exclusion. The 28% digital user growth at BAZNAS and high retention rates among urban millennials mask persistent disparities in access and participation. Rural communities, elderly populations, and economically disadvantaged groups face multiple barriers including limited internet connectivity, smartphone ownership costs, and low digital literacy (Makarim & Hamzah, 2023).

   Indonesia's digital divide is geographically concentrated, with internet penetration in Papua and Nusa Tenggara regions significantly lower than Java and Sumatra (BPS, 2023). This creates a paradox wherein digitalization intended to enhance inclusion may inadvertently reinforce existing inequalities. Communities most in need of zakat assistance may face greatest difficulty accessing digital payment channels, while tech-savvy urban professionals' benefit from streamlined digital interfaces. This raises fundamental questions about whose interest's digital transformation serves and whether technological modernization aligns with zakat's core redistributive objectives.

2. Data Privacy and Surveillance Concerns

   The implementation of AI-based mustahik mapping and blockchain verification systems generates extensive personal data on both donors and beneficiaries. While institutional reports emphasize transparency benefits, insufficient attention has been given to privacy implications. Blockchain's immutability presented as an accountability advantage means beneficiary identities and economic circumstances become permanently recorded in potentially accessible ledgers (Omar & Khairi, 2022).

   This raises ethical questions about dignified treatment of mustahik and potential stigmatization. Furthermore, concentration of donation data within institutional databases creates risks of misuse, unauthorized access, or government surveillance. The absence of comprehensive data protection regulations specific to Islamic philanthropic institutions in Indonesia leaves both muzaki and mustahik vulnerable to privacy violations. Critical scholarship must examine whether efficiency gains justify potential erosion of confidentiality traditionally maintained in zakat relationships.

3. Technology Dependency and Institutional Power
   Digital transformation consolidates power within institutions possessing technological capabilities and financial resources for platform development. This advantages large organizations like BAZNAS, Dompet Dhuafa, and Rumah Zakat while marginalizing smaller community-based zakat initiatives lacking digital infrastructure. The shift toward centralized platforms may undermine locally embedded zakat practices that have historically operated through personal relationships and community trust networks.

   Moreover, partnerships with fintech companies and e-commerce platforms introduce commercial intermediaries into religious giving practices. While these collaborations expand payment channels, they also create dependency on profit-oriented technology providers whose interests may not align with Islamic principles or community welfare objectives. Transaction fees, data monetization, and platform algorithm biases represent potential conflicts requiring scrutiny.
4. Sustainability and Long-term Viability
   The substantial upfront investments required for blockchain implementation, AI systems, and digital infrastructure raise questions about long-term financial sustainability, particularly for smaller institutions. Maintenance costs, system updates, and cybersecurity measures require ongoing resource allocation that may divert funds from direct beneficiary assistance. Cost-benefit analyses presented in institutional reports often emphasize immediate efficiency gains while underestimating long-term technological dependencies and upgrade requirements.

   Furthermore, rapid technological obsolescence means today's cutting-edge platforms may become outdated within years, necessitating continuous reinvestment. This creates tension between innovation imperatives and stewardship obligations to maximize social impact per rupiah collected.
5. Balancing Innovation with Tradition
   Digital transformation risks commodifying and depersonalizing zakat as a spiritual act of worship. The convenience of one-click donations may enhance participation metrics while diminishing the reflective, intentional character traditionally associated with zakat payment. Real-time impact dashboards and gamified giving features, while increasing engagement, may inadvertently transform sacred obligation into transactional consumer experience.

   These critical perspectives do not negate digitalization's benefits but highlight the necessity for balanced assessment. Successful digital transformation requires addressing exclusion patterns, safeguarding privacy, maintaining institutional accountability, ensuring financial sustainability, and preserving the spiritual essence of zakat practice.

The Effectiveness of Digitalization in Zakat Distribution and Transparency

Digitalization also has a significant impact on the effectiveness of zakat distribution. Through digital systems, institutions such as BAZNAS can map mustahik more accurately through the e-Mustahik System and distribute zakat based on data-driven needs. In Zulfikri's (Zulfikri, 2023) research in the I-Philanthropy Journal, it is mentioned that the use of digital systems allows zakat administrators to monitor the distribution of aid in real-time, thereby accelerating the verification process and distribution of funds to mustahik.

One concrete example of this efficiency is the significant reduction in operational costs achieved through the automation of administrative processes. Institutions such as Baznas, which integrate big data and digital systems, report a reduction in costs of up to 40% in their operations. This shows that the application of technology allows these institutions to allocate more funds to social programs and community empowerment. The implementation of mobile applications and digital platforms has made the process of collecting zakat and waqf faster and easier, reducing the

administrative burden that previously had to be done manually. In addition, digital systems allow donors to send their funds directly without going through lengthy procedures, accelerating the flow of funds, and increasing distribution efficiency. This also allows institutions to monitor and evaluate their activities in real-time, reducing human error and improving financial management.

This efficiency is also evident in terms of human resource management. Institutions that adopt digital systems can reduce the number of staff needed for routine administrative tasks. In addition, existing staff can focus more on data analysis and developing more targeted empowerment programs (Alwi, 2023; Akbar, 2023). This makes institutions more adaptive to the evolving needs of the community.

In addition to efficiency, transparency has also increased. Digital reports allow the public to monitor the flow of zakat funds, the number of beneficiaries, and the programs being implemented. According to Fornia Makarim (Makarim & Hamzah, 2023)), the presence of digital dashboards and online audits strengthens the principle of good zakat governance, especially in terms of institutional accountability and public trust. BAZNAS 2023 data shows that around 78% of muzaki admit that they have more trust in institutions that provide online reporting and regular activity updates. This confirms that digitization is not only a technical transformation, but also a revolution in the values of national zakat governance.

While transparency is essential, digital systems must balance accountability with mustahik dignity and confidentiality, as the Qur'an emphasizes discreet charity (Al-Baqarah: 271). Privacy-by-design architecture has become critical in modern zakat platforms. Institutions adopt differential privacy techniques where mustahik data is aggregated and anonymized for public reporting displaying "450 families assisted in East Jakarta" rather than individual identities while maintaining detailed records in secure, access-restricted databases (Shaikh et al., 2017). Role-based access controls with multi-factor authentication ensure only authorized personnel view sensitive beneficiary information. As Rahman et al. (2020)) note, technological safeguards must be complemented by policies restricting data retention and prohibiting third-party sharing without explicit consent. Blockchain implementation uses pseudonymization, assigning mustahik non-traceable identifiers rather than real names, allowing donors to verify fund disbursement without compromising beneficiary privacy (Muneeza et al., 2018). Consent mechanisms empower mustahik with control over their information, aligning with both Islamic ethical principles and global data protection standards. As Wahid et al. (2022) argue, the challenge lies not in choosing between transparency and privacy but in architecting systems that deliver both simultaneously demonstrating institutional accountability while honoring mustahik dignity as rights-bearing individuals.

Blockchain technology has become one of the important innovations in digital zakat and waqf management. One of the main benefits of blockchain is its ability to ensure greater transparency and accountability in every transaction made. Every transaction recorded in the blockchain is permanent, providing assurance that the funds collected and distributed will always be clearly recorded and auditable by anyone (Makarim, 2024). Rumah Zakat is an example of an organization that has implemented blockchain to increase the transparency of their fund management. With blockchain, donors can monitor the use of the funds they donate and know whether the funds reach the mustahik who need them. This builds public trust, as they can see the direct impact of their contributions and ensure that zakat and waqf funds are used efficiently and on target (Sarif et al., 2025). The results of research by Akbar Sarif and Rini Ariyanti state that the application of digital technology reduces operational costs by up to 40%, meaning that more funds can be allocated to beneficiaries. Easy digital access also encourages donors to pay zakat anytime and anywhere.

The Impact of Digitalization on Accountability and Public Trust

Digital transformation not only brings efficiency in the collection and distribution of zakat, but also increases accountability and public trust in zakat management institutions. Through digital platforms, muzaki can now directly monitor financial reports, the number of mustahik, and the progress of zakat distribution programs. This reinforces the principle of good governance and fosters a sense of trust that their zakat funds are being managed with integrity and transparency. In addition, the application of blockchain technology will increase donor confidence because every transaction can be verified. This will also build a good reputation for zakat management institutions in the eyes of the public. This digital system can also increase the sense of security and comfort in transactions and can also reduce the risk of fund misuse and data leaks (Muttaqin, 2024).

According to (Rizaludin, 2024), increased digital-based transparency has become one of the main keys to the growth of new muzaki in Indonesia. In his research, he states that "digital reports and real-time updates serve as trust boosters that enhance muzaki engagement," because the public feels more confident seeing direct evidence of zakat use through the BAZNAS and Dompet Dhuafa applications. In addition, the BAZNAS annual report (2023) shows a 78% increase in public trust in zakat institutions that implement digital reporting systems. Zulfikri adds that digital marketing and public communication through zakat institutions' social media channels also play an important role in strengthening the positive image of these institutions, especially among the younger generation (Zulfikri, 2023). Thus, digitalization not only touches on technical aspects but also forms new social relationships between zakat institutions and muzaki based on the values of transparency and public accountability.

On the other hand, Indonesia has a hybrid system in which the government agency BAZNAS (National Zakat Agency) acts as the national zakat authority, while private institutions such as Dompet Dhuafa and Rumah Zakat are also legally permitted to collect zakat through official registration and supervision. These private institutions operate under official government recognition, and their integration with fintech players has enabled Indonesia to offer digital zakat services on a wide scale.

Challenges and Implications for Zakat Management in the Future

Although the digitization of zakat has brought about various advances, several challenges remain in its implementation. One of the main obstacles is the digital literacy of the community, especially in rural areas that do not yet have adequate internet access. Fornia Makarim and Hamzah note that "the digital divide may limit equitable access to zakat services, particularly among rural communities (Makarim & Hamzah, 2023)." In addition, the issue of data security for muzaki and mustahik is also an important concern as the volume of digital transactions increases. From an institutional perspective, not all zakat institutions have integrated information systems. This limits data exchange between institutions, resulting in suboptimal zakat distribution effectiveness. (J. Aini et al., 2025) emphasize that in the future, there needs to be synergy and standardization of the national digital zakat system so that data management, reporting, and distribution can be carried out centrally and efficiently.

Evidence from research conducted by (Sarif et al., 2025) shows that zakat institutions that have adopted digital innovations have had a significant impact on improving efficiency, transparency, and community participation. For example, the use of mobile applications implemented by Dompet Dhuafa and Rumah Zakat makes it easier for donors to give zakat and waqf at any time, encouraging increased participation. As a result, Dompet Dhuafa has seen a 25% increase in donor participation, while Rumah Zakat has seen an increase in public trust thanks to the transparency provided by the blockchain system, which allows for real-time transaction verification. In addition, the implementation of a big data-based digital system at BAZNAS has helped to map mustahik more accurately. With this technology, zakat distribution can be carried out more efficiently and accurately, with accuracy increasing by up to 70%. This reduces the potential for errors in fund distribution and ensures that assistance reaches those who

really need it. However, the challenge faced by BAZNAS is the limited technological infrastructure in remote areas, which limits the reach of this system.

However, the opportunities for developing digital zakat in the future are enormous. The use of artificial intelligence (AI) and Big Data Analytics can be a solution to improve the accuracy of mapping mustahik and predicting future zakat potential. Alfatah and Abdulloh also highlight the importance of further digital innovation, such as integrating zakat with e-wallet and marketplace platforms, to expand the reach of muzaki (Alfatah & Abdullah, 2024). Thus, the digital transformation of zakat can be a major driving force in achieving the Sustainable Development Goals (SDGs), particularly poverty alleviation and improved social welfare.

Digital zakat tactics can be quite effective in reducing underreporting and illegal zakat collection. The use of blockchain technology, which provides complete traceability from donors to beneficiaries and immutable transaction records, is one of the most efficient strategies (Munifatussaidah, 2025). Blockchain-based zakat systems that manage funds using smart contracts and ensure that their distribution complies with Sharia rules have been used by countries such as Malaysia. In addition, centralized digital databases and artificial intelligence can be used to identify irregularities, avoid double claims, and ensure that only certified recipients receive assistance.

Another challenge is the cost associated with implementing new technology. Technologies such as blockchain and big data require significant investment in terms of hardware, software, and staff training. Zakat and waqf management institutions must consider whether they can afford this large initial investment and whether they will reap the corresponding long-term benefits. In addition, these institutions must also address data security and privacy issues (Moniruzzaman, 2025).

Overall, the digitization of zakat in Indonesia has proven to strengthen the Islamic philanthropy ecosystem by expanding its reach, increasing accountability, and building public trust. The remaining challenges open opportunities for cross-institutional collaboration in creating a more inclusive and sustainable national zakat system. Addressing digital disparities requires a paradigm shift from competitive advantage to collaborative empowerment. BAZNAS could lead development of an open-source national zakat management system freely available to all registered institutions, providing core functionalities donor management, payment processing, automated reporting customizable to local contexts while maintaining interoperability. Similar open-source models in other sectors have reduced costs by 60-80% while accelerating adoption (Nasution et al., 2019). Tiered technology packages would allow smaller organizations to start with basic digital tools and progressively adopt advanced features as capacity grows, with subsidized pricing treating technology sharing as part of national coordination mandates.

As Alias et al. (2021) note, capacity-building investments by apex institutions yield systemic returns through enhanced sector credibility and expanded overall zakat mobilization. Regional technology hubs could offer training for amil on digital system operation, cybersecurity, and data analytics. A shared services model such as a national blockchain consortium or cloud-based AI mustahik mapping accessible via API enables smaller institutions to access expensive capabilities without individual investment (Bakar & Rashid, 2020). Financial sustainability could be supported through a Zakat Development Fund from administrative allocations, subsidized licensing, or public-private partnerships with technology corporations. As Kasri & Yuniar (2021) emphasize, the strength of Indonesia's zakat sector lies in collective impact recognizing that broader digital inclusion elevates all organizations through enhanced public trust and expanded donor bases.

V. CONCLUSION AND RECOMMENDATION

This study examined how digital transformation enhances muzaki participation and strengthens the efficiency, transparency, and social impact of zakat distribution in Indonesia. Through systematic analysis of institutional reports and scholarly literature, four key findings emerged.

First, digital platforms significantly increased muzaki participation, with national collection growing from IDR 10.2 trillion (2019) to IDR 18.9 trillion (2024). BAZNAS achieved 28% digital user growth with 85% retention rate, driven by transaction convenience, security, and real-time impact visibility. Second, digitalization enhanced operational efficiency by 40% and improved mustahik targeting accuracy by 70% through AI and big data integration. Third, transparency features including real-time dashboards and blockchain verification strengthened accountability, with 78% of muzaki expressing increased institutional trust. Fourth, digital zakat contributes to SDGs through accurate beneficiary mapping and expanded geographic reach.

However, critical examination reveals persistent challenges. Digital divide in rural areas, low literacy among elderly populations, cybersecurity vulnerabilities, privacy concerns, high implementation costs, and system fragmentation across institutions limit inclusive access. These findings demonstrate that digital transformation is an ongoing process requiring continuous attention to equity and accessibility rather than a completed achievement.

For zakat institutions, BAZNAS should lead the development of interoperable platforms connecting all zakat institutions to enable data exchange, unified reporting, and coordinated mustahik mapping. Additionally, they should enhance digital literacy by investing in training programs for amil, muzaki, and mustahik, prioritizing rural communities, and designing simplified mobile-first interfaces with multilingual support.

For future research should address several critical gaps to advance understanding of digital zakat systems. First, empirical behavioral studies employing surveys, experiments, and big data analytics are needed to identify behavioral predictors of digital adoption across demographic segments. Second, rigorous cost-benefit analysis should evaluate the return on investment of blockchain, AI, and other emerging technologies across institutional contexts, considering both financial and social impact metrics.

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