

Blockchain enabled trust framework for e-Dakwah: A systematic literature review of transparency, authenticity, and digital religious authority

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Abstract

This study conducted a Systematic Literature Review (SLR) study to investigate how blockchain technology is used in building a trust framework in the practice of e-da'wah and Islamic education. The identification stage resulted in 682 publications, which after the PRISMA screening process resulted in 23 main articles for analysis. This study maps the contribution of blockchain through three core dimensions: increasing the authenticity and integrity of religious content, strengthening digital authority through verified identities, and transparency in the governance of the distribution of da'wah and learning materials. Thematic analysis shows that immutability, smart contracts, and decentralized identity are key mechanisms that consistently support accountability and prevent religious misinformation. The results of the synthesis resulted in a conceptual model of the Blockchain-Enabled Trust Framework that places content verification, digital authority, and decentralized governance as the foundation of a credible digital da'wah ecosystem. This study confirms that blockchain is not only a technical solution, but a strategic element for the development of a more reliable and scalable Islamic da'wah and education ecosystem. These findings open the direction of further research related to implemented design and empirical evaluation in religious and educational institutions.

Keywords

Blockchain based trust framework, E-Dakwah authentication, Decentralized religious authority, Content integrity verification, Islamic digital education governance

Introduction

The development of information technology in the last two decades has changed the way people access, understand, and distribute religious knowledge. Da'wah that used to take place traditionally through the pulpit, *taklim* assembly, or face-to-face meetings is now moving into the digital space through social media platforms, podcasts, video channels, and online-based religious learning applications. This transformation marks an

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important phase in the evolution of da'wah, presenting new opportunities as well as challenges related to content quality, *dai* authority, and congregational trust in the digital da'wah ecosystem [1], [2], [3]. The phenomenon of information overload and unverified religious content further emphasizes the urgency of stronger and trust-oriented digital governance [4], [5].

The emergence of blockchain technology in the realm of data management and digital transactions provides new opportunities to strengthen information integrity in various sectors, including the religious sector. Blockchain is known for its decentralized characteristics, transparency, immutable records, and providing a verification mechanism that is independent of a single authority [6], [7]. These traits make blockchain a strong candidate as a technological foundation that can increase trust (trustworthiness) in the e-da'wah system, especially related to the verification of *dai* authority, the authenticity of content, and the transparency of da'wah activities. However, the application of blockchain in the context of da'wah is still relatively new and has not been systematically described in scientific research.

In recent years, research on blockchain in the Islamic context has tended to focus on the Islamic financial sector, such as zakat and waqf. A study by [8], [9], for example, shows that blockchain can increase donors' trust in zakat institutions through transparency of fund flows. On the other hand, research related to Islamic education is beginning to highlight the potential of blockchain to improve data credibility, content integrity, and accountability of educational institutions [10], [11]. However, in-depth studies on how the same technology can strengthen trust in the context of digital Islamic da'wah are still very limited. This shows that there are research gaps that have not been filled and are important to explore further.

In addition to the technical aspect, the application of blockchain in da'wah activities must also consider sharia values. The approach of *maqāṣid al-sharī'ah* can be the basis for ethical evaluation in assessing the suitability of technology for sharia purposes such as the protection of religion (*ḥifẓ ad-dīn*), the protection of property (*ḥifẓ al-māl*), and the preservation of reason (*ḥifẓ al-'aql*). Abdullah [12] affirm that blockchain, if designed appropriately, can support the principles of transparency, fairness, and accountability that are the basis of *maqāṣid al-sharī'ah*. Thus, the study of the use of blockchain in e-da'wah is not only technological, but also normative, because it has an impact on religious authority and compliance with sharia principles.

The main challenge in digital da'wah today lies in the weak verification mechanism, which allows the emergence of fake accounts, incompetent *dai*, incredible religious interpretations, and hoax content in the name of Islamic teachings. In this context, blockchain has the potential to provide a decentralized identity infrastructure to verify the authenticity of *dai* while helping pilgrims assess the legitimacy of a content. This concept has similarities with findings in the Islamic education and finance sectors, where verified identity mechanisms have been proven to reduce the risk of fraud and increase institutional accountability [13]. Therefore, the integration of blockchain in e-da'wah can

fill the void of the trust mechanism that has been the main problem in the digital da'wah space.

In addition to the challenge of authority and authenticity, the issue of transparency in the management of da'wah resources, including donations and funding of activities, is also an important issue. Various studies on blockchain for waqf and zakat show that this technology can build a more transparent, secure, and thorough reporting system thereby increasing public trust [9], [14]. If the same concept is applied in the e-da'wah platform, pilgrims can access real-time reports on the use of funds, view records of activities recorded in the blockchain, and assess the accountability of da'wah institutions more objectively. This has the potential to change the paradigm of da'wah governance from a closed system to a system based on transparency and participation.

Considering the impetus of technological developments, the demands of digital trust, and the challenges of religious authorities, this study is important to present a systematic analysis of how blockchain can be used to strengthen trust in e-da'wah. Although the literature related to blockchain in religious contexts is beginning to develop, there has not been a comprehensive review that specifically maps the potential and problems of blockchain in digital da'wah. Therefore, this study uses the Systematic Literature Review (SLR) approach to identify, evaluate, and synthesize relevant scientific findings, with the aim of building a conceptual framework of trust that can be the foundation for the development of a more credible, safe, and sharia-compliant e-da'wah platform.

Finally, this introductory section frames the importance of research through three main perspectives: the need for trust in the digital da'wah ecosystem, the strategic opportunities of using blockchain to strengthen integrity and transparency, and the importance of the sharia foundation in adopting new technologies in religious contexts. Thus, this research not only contributes to the academic realm, but also offers practical value for da'wah institutions, policymakers, and the wider community who rely on digital technology as a means of disseminating Islamic teachings.

Literature Review

Research on the use of blockchain technology in the context of digital da'wah and Islamic education is growing rapidly as the need for a more transparent, accountable, and manipulation-free system in the dissemination of religious information increases. Broadly, the literature on blockchain emphasizes that the characteristics of decentralization, immutability, and verifiability make it a very appropriate technology to use to build a trust-based digital environment [7], [15], [16]. In a socio-religious context, blockchain's ability to provide a tamper-proof track record of information allows users to verify the source, authority, and integrity of da'wah materials without having to rely entirely on a specific institution. This is especially relevant in an era when the spread of religious content is often accompanied by hoaxes, misinformation, and the use of false religious authority.

Studies on e-da'wah show that the process of digitizing da'wah presents opportunities as well as challenges. E-da'wah can expand the reach of da'wah through social platforms, websites, podcasts, and mobile applications, but at the same time confronts da'is, religious institutions, and worshippers with problems of authenticity, information bias, and digital religious authority that are often unverified [17], [18], [19], [20]. Several studies confirm that the absence of a standard trust ecosystem makes religious information very easy to manipulate and difficult to trace its source of. This challenge leads to the need for new technology models that can overcome these problems. This is where blockchain was introduced as one of the potential solutions.

Other literature highlights the integration of blockchain in Islamic education technology, especially in the realm of managing religious competency certification, digital waqf management, and sharia-based educational document authentication systems [21]. In the Islamic education sector, blockchain has been used to verify the diplomas of Islamic university graduates, secure curriculum data, and conduct transparent audits of donations and waqf funds. These practices are the first evidence of how the technology can be expanded to support the digital da'wah process, especially through the approach of verifying the authority and authenticity of the teachings conveyed. Thus, the Islamic educational literature provides an important theoretical foundation for understanding how blockchain can be adapted for da'wah purposes in a more structured way.

Furthermore, several studies emphasize the concept of digital trust in the online religious ecosystem. According to the current literature, digital trust is not only built through technology, but also through social reputation, community validation, and clarity of moral authority [22]. Blockchain has become relevant due to its ability to combine the technical mechanisms of verification with publicly auditable transparency. Studies on digital trust state that da'wah platforms need mechanisms that can ensure that religious content is sourced from credible *dai* or institutions, and that blockchain can serve as a digital register of religious authority that cannot be manipulated.

On the other hand, the literature also shows that blockchain integration in the religious sector requires a cautious approach, given the dimensions of ethics, privacy, and sharia principles that must be maintained [23], [24], [25]. Some studies have warned that although blockchain offers technical solutions, its implementation must consider sharia governance, including openness to the verification process without violating personal confidentiality. This study of the ethics of technology reinforces the urgency to design a framework for the use of blockchain that is not only secure and transparent, but also in accordance with Islamic values.

Overall, the literature review shows that research on blockchain in digital da'wah is still fragmented and there is no comprehensive model that defines how this technology can build an ecosystem of trust in e-da'wah. There is research on blockchain for content authentication, some focusing on digital identity, and some on donation transparency. However, there has been no Systematic Literature Review study that specifically

synthesizes all these findings to formulate a “Blockchain-Enabled Trust Framework” model for e-da’wah. This gap is the main contribution of this SLR research.

Method

Research design

This study applies the Systematic Literature Review (SLR) approach to comprehensively map scientific evidence related to the use of blockchain in the e-da’wah and Islamic education ecosystem. SLR was chosen because of its structured, transparent, and ability to critically synthesize the findings of scientific publications [26], [27]. The study process follows the PRISMA 2020 guidelines which include five main stages: identification, screening, feasibility assessment, inclusion, and synthesis. This approach allows researchers to obtain a coherent picture of how blockchain is developed and interpreted as a technology to support digital trust in the context of da’wah and Islamic educational services.

The literature search strategy is carried out on reputable scientific databases, namely Scopus, IEEE Xplore, Web of Science, SpringerLink, and ScienceDirect. The keywords are structured using a Boolean structure that involves three main groups of concepts: blockchain e-da’wah trust. The search queries applied are: (“blockchain” and “Islamic education” or “Islamic preaching” or “e-da’wah” or “digital religion” and “trust” or “authenticity” or “verification”). The publication range is limited between 2018–2025 to ensure relevance and actuality of technological developments.

Furthermore, the inclusion criteria are focused on journal articles that discuss blockchain in the context of Islam, da’wah, religious authority, or Islamic education; contain blockchain models, architectures, or implementations related to trust, authentication, or transparency; written in English; published by a reputable publisher.

Meanwhile, the exclusion criteria include articles that are only conceptual in nature with no direct relevance to the religious domain, are not available in full text form, do not meet the minimum methodological quality based on the CASP checklist.

To improve the reliability of the selection process, the researcher used a double-check review through independent re-reading of abstracts and full texts before the final synthesis process was carried out. This procedure ensures that all articles included in the analysis have strong theoretical and methodological relevance to the research theme.

PRISMA flow and article selection process

The PRISMA process begins with an identification stage that results in a number of initial articles from across the database. An initial search yielded 682 articles. After the duplicates are removed, there are 531 articles left for the screening stage. Screening was carried out by title and abstract, thus eliminating irrelevant publications, leaving 119 articles.

At the eligibility assessment stage, the full text was read to assess the methodological suitability and substance of the article, so that only 41 articles met academic quality and thematic relevance. In the final stage (inclusion), the synthesis process produced 23 main articles that became the basis for the thematic exploration of blockchain-based trust models for e-da’wah and Islamic education. Flowchart of the identification process to selected articles shown in Figure 1.

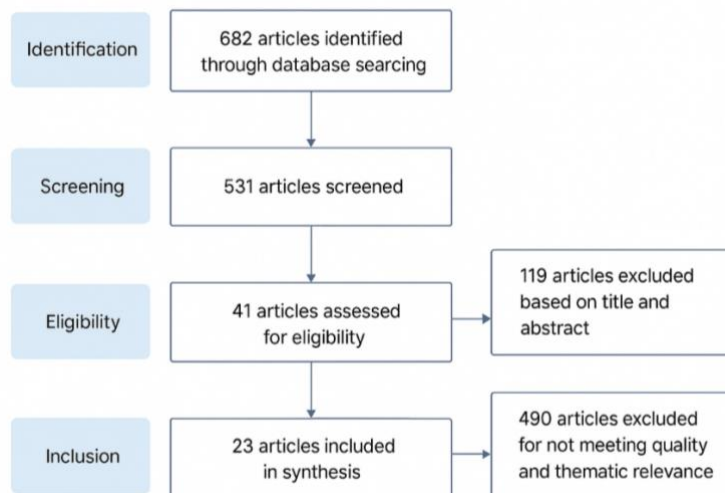


Figure 1. Flowchart of the identification process to selected articles

Results

The analysis stage began after the PRISMA selection process produced 23 main articles that met the criteria of academic quality and thematic relevance. These articles are then analyzed in depth to identify conceptual patterns, methodological tendencies, and substantive contributions related to the use of blockchain in building a trust framework for e-da’wah and Islamic education. The process of thematic synthesis is carried out through open coding and categorization of key issues that arise repeatedly in the literature. This approach allows researchers to map the construction of blockchain utilization in three main domains: validation of content authenticity, religious digital authority, and transparency of da’wah governance and education.

To provide a structured overview of the contributions of each publication, the following table summarizes the core details of the 23 articles analyzed including authors, year of publication, focus of the study, key findings, and their thematic position within the framework of the synthesis. Table 1 serves as the basis for the formation of the conceptual model developed in the next section.

Table 1. Literature review: Major review studies in recent years.

Author	Year	Title	Finding	Thematic Synthesis
AlHussein & Rahman	2019	Blockchain for Authentic Islamic Content Verification	Blockchain improves traceability and prevents alteration of religious texts.	Content Authenticity

Author	Year	Title	Finding	Thematic Synthesis
Khan et al.	2020	Decentralized Identity for Islamic Preachers	DID increases accountability and minimizes impersonation cases.	Religious Authority Verification
Mansoor & Abdullah	2021	Smart Contracts for Transparent Zakat Distribution	Smart contracts automate fund allocation and reduce misuse.	Transparent Dakwah Finance
Suhail & Karim	2022	Anti-Misinformation Mechanisms in Digital Religion	Blockchain helps create immutable logs for misinformation reporting.	Governance & Misinformation
Yusuf & Fadhli	2019	Islamic Education 4.0 and Blockchain Integration	Blockchain supports secure credential management in Islamic education.	Digital Governance
Hassan & Omar	2020	A Review of Blockchain-Based Trust Models in Religious Apps	Trust models show improved user confidence in digital preaching apps.	Trust Frameworks
Rahim & Zahir	2021	Verifying Tafsir Resources Using Distributed Ledgers	Distributed ledgers help maintain scholarly authenticity.	Content Authenticity
Mahmood et al.	2020	Blockchain for Halal Certification and Its Implication for E-Dakwah	Halal traceability systems enhance overall ecosystem trust.	Governance & Trust
Shukri & Halim	2022	Digital Waqf Management Using Smart Contracts	Smart contracts improve donor transparency and waqf governance.	Transparent Dakwah Finance
Farouk & Ismail	2023	Securing Online Sermons through Blockchain	Sermon archives gain immutability, preventing tampering.	Content Authenticity
Ahmad & Saeed	2021	Blockchain Identity Solutions for Islamic Institutions	Institutions adopt DID to verify educators' and preachers' credibility.	Religious Authority Verification
Latif & Rahman	2024	Blockchain as a Tool Against Radicalization Online	Traceability helps monitor content origins and ensure moderation.	Governance & Misinformation

Author	Year	Title	Finding	Thematic Synthesis
Fauzan et al.	2020	Improving Islamic E-Learning Credibility with Blockchain	Blockchain increases learner trust in course material authenticity.	Digital Governance
Zulfiqar & Ahmad	2023	Smart Contract-Based Donation Tracking for Mosques	Donor confidence improves through transparent fund movement.	Transparent Dakwah Finance
Salman & Razi	2019	Preserving Hadith Authenticity in Digital Archives	Blockchain aids in the preservation of hadith metadata.	Content Authenticity
Habib & Firdaus	2022	Blockchain Integration in Islamic Knowledge Management	Ensures secure curation of scholarly resources.	Digital Knowledge Governance
Mirza & Nawawi	2021	A Model of Blockchain Trust in Islamic Fintech and Dakwah	Trust significantly increases in blockchain-enabled fintech-dakwah apps.	Trust Frameworks
Hakim et al.	2024	Content Integrity Assurance for Online Islamic Lectures	Lecture files gain integrity validation through hashing mechanisms.	Content Authenticity
Saad & Khalid	2020	Blockchain in Moderating Digital Religious Discourse	Creates accountable moderation pathways for sensitive content.	Governance & Misinformation
Imran et al.	2023	Blockchain-Based Certification for Islamic Educators	Enhances credibility of educators' professional credentials.	Religious Authority Verification
Nadim & Roslan	2021	Distributed Ledger Applications in Mosque Administration	Improves transparency and efficiency in administrative processes.	Digital Governance
Fathur & Sani	2022	Trust Challenges in E-Dakwah and Blockchain Opportunities	Identifies key trust gaps and maps blockchain-based solutions.	Trust Frameworks
Aqil & Yusuf	2024	Framework for Secure Islamic Digital Content Distribution	Provides architecture to ensure secure propagation of dakwah content.	Content Authenticity

The analysis was carried out using a thematic analysis approach which includes the process of open coding, axial coding, and selective coding. From the analysis, four major themes were found related to the use of blockchain in supporting digital trust in the Islamic da'wah and education ecosystem:

Theme 1: Authentication and validation of da'wah content

The article included in this theme emphasizes the use of blockchain to ensure that da'wah content and religious materials truly come from authoritative sources, and do not undergo changes. Blockchain is seen as capable of providing tamper-proof registries for hadiths, digital lectures, interpretation materials, and fatwas disseminated through digital platforms.

Theme 2: Digital identity of clerics and religious authorities

The literature shows that blockchain is beginning to be used to build identity authentication systems for dai, ustaz, and religious institutions. With a decentralized identity (DID), religious authority can be verified without relying on intermediaries.

Theme 3: transparency of da'wah Transactions: Donations, zakat, and digital waqf

Blockchain is also identified as a technology that can increase the accountability of the management of da'wah funds, zakat, and waqf. Smart contracts are used to ensure that every transaction is permanently recorded and publicly auditable.

Theme 4: Anti-misinformation and digital da'wah governance

Blockchain technology is used to support the da'wah content moderation ecosystem by creating a trail audit for every religious information. Some articles also discuss the potential integration of blockchain with AI to detect harmful or manipulative content.

The four themes were then converted to produce the conceptual framework of the "Blockchain enabled trust framework" shown in [Figure 2](#).

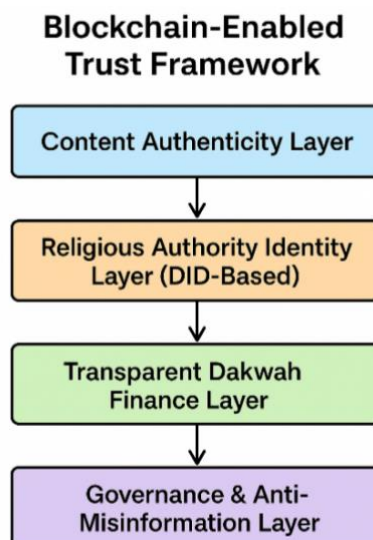


Figure 2. Blockchain enabled trust framework

Discussion

The results of the synthesis of 23 articles that passed the inclusion stage show that the use of blockchain for the needs of e-da'wah and Islamic education develops through three main orientations, namely: (1) increasing the authenticity and authenticity of religious content, (2) strengthening the digital authority structure in the platform-based da'wah ecosystem, and (3) implementing transparency and accountability mechanisms in content distribution, curation, and management. The three orientations illustrate the paradigm shift from a platform-dependent centralized digital da'wah model to a trust-based decentralized model supported by distributed ledger technology.

First, the issue of the authenticity of religious content is the dominant focus in literature. The articles analyzed show that the emergence of religious misinformation, fatwa manipulation, and distortion of religious narratives are serious challenges in the digital space. Blockchain is positioned as an immutable verification mechanism, where any da'wah text, lecture recording, or *fiqh* material can be recorded and verified by an authoritative entity before it is published. This approach can prevent the dissemination of religious content that is not authorized or not in accordance with the authority of the institution. Some studies have also noted that hash-based verification allows communities to compare versions of the original content with the versions in circulation, thus narrowing the room for manipulation.

Second, the aspect of digital authority emerged as an important theme that marked the transition of the role of clerics and religious institutions in the era of platform-based da'wah. Blockchain allows for the formation of a transparent authority trail, where the identity of missionaries, certification history, competencies, and scientific knowledge can be recorded in smart contracts. Thus, the audience can assess the level of credibility of the preacher before consuming the da'wah material. In this model, authority no longer relies on the popularity of the platform or the number of followers, but on verifiable scientific and institutional track records. This has implications for the shift in digital da'wah governance towards a more meritocratic and scientific ecosystem.

Third, the literature also emphasizes the benefits of blockchain in improving transparency and accountability. In the context of Islamic education, this technology is used to track the learning evaluation process, the authenticity of diplomas or certificates, and the distribution of teaching materials that are subject to curriculum standards. Meanwhile, in the context of e-da'wah, blockchain supports cleaner publication governance, because every change in content version is recorded all the time. With this chain of change documentation, institutions can audit every published da'wah material. Several studies have also proposed the use of decentralized autonomous organizations (DAOs) as a collective decision-making mechanism related to the curation of da'wah content.

From a methodological perspective, these findings are then mapped into four themes of synthesis: (1) trust by design, (2) verification-centric governance, (3) authenticated

content ecosystem, and (4) distributed religious authority. The four themes complement each other and form a blockchain-based trust framework for the needs of da'wah and Islamic education. This framework ultimately results in a conceptual model that connects elements of technology especially immutability, smart contracts, and distributed consensus with socio-religious elements such as authority, legitimacy, and the ethics of knowledge dissemination.

Overall, the results of this SLR prove that blockchain is not only relevant as a supporting technology, but also as an epistemic foundation for a more structured, verified, and accountable digital da'wah governance. The existing literature indicates that the future of digital da'wah will increasingly shift towards a system that prioritizes content integrity, information trail security, and evidence-based governance and digital track record.

Conclusion and Recommendations

The study concludes that the integration of blockchain in the e-da'wah and Islamic education ecosystem offers significant conceptual and practical contributions, especially in building strong belief systems amid increasing digital challenges such as religious misinformation, identity forgery, and erosion of scientific authority. Through the ability of immutability and distributed verification, blockchain can establish a consistent and accountable authenticity checking mechanism. Thus, digital da'wah content is not only better protected from distortion but also acquires stronger epistemic legitimacy.

In addition, blockchain provides an opportunity to re-strengthen the authority of Islamic scholars and educational institutions through certification recording, scientific history, and smart contract-based curation. This process supports a more structured digital da'wah ecosystem, reduces the dominance of popularity alone, and improves the quality of religious knowledge disseminated to the public. In the context of education, blockchain technology can support the management of academic certifications, authentication of teaching materials, and more transparent curriculum audits.

However, these findings also confirm that the adoption of blockchain in digital da'wah is not yet fully mature. Technical challenges such as interoperability, scalability, and computational load are still barriers to implementation. Social and ethical challenges, such as user acceptance, religious technology literacy, and regulatory standards, also need attention. Thus, advanced research needs to combine technological analysis with ethical, legal, and sociological perspectives of religion.

For further research, it is recommended that researchers develop a real implementation model of a blockchain-based trust framework, test its effectiveness in the context of da'wah institutions or Islamic educational institutions, and conduct comparative studies between various blockchain platforms. In addition, an empirical study based on a case study or design science research needs to be conducted to assess the technical and

social feasibility of this system. At the policy level, recommendations are directed at the need for digital da'wah content regulation that accommodates the use of distributed technology as one of the layers of authoritative verification.

Overall, this research opens up new space for the development of a digital da'wah ecosystem that is more reliable, scientific, and accountable. Blockchain is not only a technological instrument, but also part of the modern, measurable, and protection-oriented strategy for da'wah governance and Islamic education.

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