

Digital Waqf: The Role of Technology in Revitalizing Islamic Endowments for Sustainable Development

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Received January, 02, 2025; Revised March 29, 2025; Accepted April 11, 2025

Abstract

Objective: The purpose of this project is to look into how digital technology might help revive waqf, or Islamic endowments, as tools for sustainable development in areas with a majority of Muslims. **Theoretical framework:** The study is based on two complementary theoretical frameworks: Islamic economic theory, which emphasizes the ethical, legal, and redistributive aspects of waqf, and institutional economics, which studies how institutional arrangements influence economic performance. A comprehensive evaluation of how digital tools might improve waqf management's efficiency and ethical accountability is made possible by this dual viewpoint. **Literature review:** Although researchers like Monzer Kahf, Mehmet Asutay, and Siti Mashitoh Mahamood have examined the socio-economic benefits of waqf, the literature review emphasizes that there is still a dearth of research that operationalizes technology-driven strategies for waqf revival. The systemic potential of digital integration for scaling the developmental impact of waqf is underexplored in existing research, which mostly concentrates on traditional governance or micro-level case studies. **Methods:** Methodologically, this research utilizes a qualitative, comparative approach, analyzing policy documents, legal frameworks, and case studies from countries such as Malaysia, Indonesia, Turkey, and the Gulf states. It combines institutional assessment of technology adoption with doctrinal examination of maqāṣid al-sharī'ah (the goals of Islamic law). **Results:** According to the findings, digital technologies can help with major waqf management issues such as low donor confidence, underutilization of assets, and a lack of transparency. Blockchain-powered crowdfunding for micro-waqf projects and blockchain-powered waqf asset monitoring pilot projects show greater donor engagement, enhanced accountability, and closer alignment with the Sustainable Development Goals (SDGs). However, obstacles to broader adoption include unclear regulations, a lack of technological expertise, and worries about Sharia compliance. **Implications:** This study has important ramifications for civil society organizations, Islamic financial institutions, and governments. The study provides a solution to modernize waqf without compromising its religious core by fusing technical advancement with traditional waqf ideals. This will increase waqf's contribution to environmental sustainability, healthcare, education, and poverty alleviation. **Novelty:** This study is innovative because it combines digital innovation with Islamic economic theory to create a paradigm focused on policy that reframes waqf as a dynamic, technology-enabled tool for sustainable development.

Keywords: zakat, islamic economic law, taxation, fiscal integration, sdgs.

INTRODUCTION

The discussion of sustainable development has broadened in recent decades to encompass faith-based strategies that draw from enduring cultural, ethical, and spiritual traditions in addition to secular economic models [1]. Waqf, or Islamic endowment, has long been one of the most durable and significant organizations for socioeconomic development in the Islamic world [2]. Waqf, which has its roots in Islamic economic law, has historically helped with infrastructure, healthcare, education, and poverty reduction by distributing private wealth for the long-term good of the public [3]. With waqf-funded schools, hospitals, caravanserais, and public utilities reshaping urban landscapes from Istanbul to Cairo and beyond, classical Islamic civilization thrived on the strength of these endowments [4].

The current global environment offers waqf regeneration, both new prospects and problems. Muslim communities are becoming more urbanized, interconnected, and involved in international networks, which necessitates the use of creative approaches to resource mobilization and governance [5]. However, the efficacy of waqf organizations is still hampered by structural issues like waning donor confidence, underutilized waqf assets, and opaque management methods [6]. Additionally, contributors of today, especially those from younger generations, have shifting expectations [7]. They require not only Sharia conformity and ethical assurance, but also quantifiable social benefit, operational transparency, and ease of participation, values that are difficult for traditional waqf administration models to provide. Waqf runs the risk of losing its significance and transformational power as a tool for social justice and inclusive growth if it is not modernized [8].

In addition, the digital revolution has created previously unheard-of opportunities for institutional change [9]. Almost every area of the global economy is changing as a result of digital technologies, including blockchain, crowdfunding websites, online registration platforms, and artificial intelligence. By guaranteeing accountability, improving donor engagement, and developing creative avenues for resource mobilization, these instruments have the potential to close gaps between tradition and modernity in the fields of Islamic finance and philanthropy [10]. Blockchain's decentralized ledger, for instance, can provide safe, transparent, and impenetrable records of asset management and waqf contributions. Through micro-donations, crowdfunding platforms can democratize waqf and encourage broader audiences to support public goods. Similarly, by enhancing oversight, optimizing procedures, and guaranteeing conformity with *maqāṣid al-sharī'ah* (the higher goals of Islamic law), online waqf registries and AI-driven auditing help alleviate governance inefficiencies [11]. A pressing and important question is brought up by these developments taken together: how can digital technology be incorporated into waqf management to improve its accountability, accessibility, and developmental impact without sacrificing its moral and religious underpinnings?

Even though academics like Monzer Kahf, Mehmet Asutay, and Siti Mashitoh Mahamood have emphasized the socioeconomic importance of waqf, a large portion of the body of current work is still based on historical analysis or in-depth analyses of conventional waqf models. Rarely do studies operationalize technology-driven solutions for waqf resuscitation; instead, they usually focus on governance reform, legal frameworks, or comparative viewpoints across jurisdictions [12]. This leads to a crucial research gap: whereas Islamic economics has discussed zakat, fiscal policy, and Sharia-compliant financing in great detail, nothing is known about how waqf and digital innovation interact. Furthermore, few studies have looked at how digital platforms might improve global relevance and concretely solve structural inefficiencies, indicating that the systemic potential of integrating them to scale the developmental role of waqf is yet in its infancy [13].

By examining how digital technology might act as a catalyst for waqf modernization in situations with a majority of Muslims, this study aims to close that gap. In particular, it looks at how technologies like blockchain, crowdfunding platforms, and online registries might help with enduring issues of governance, trust, and underutilization while also establishing

waqf as a key tool for accomplishing the Sustainable Development Goals (SDGs) [14]. The study's theoretical framework is based on two opposing viewpoints: institutional economics,

which examines how organizational structures and regulations affect economic results, and Islamic economic theory, which emphasizes the redistributive, moral, and legal aspects of waqf. When combined, these frameworks offer a thorough lens through which to assess how digital tools can improve waqf management's effectiveness and moral responsibility [15].

Using a comparative qualitative methodology, this study looks at the experiences of nations, including the Gulf states, Malaysia, Indonesia, and Turkey settings where regulatory reforms and digital waqf platform innovation have started to take shape [16]. Semi-structured interviews with Sharia scholars, fintech specialists, and waqf managers are conducted in addition to the analysis of policy papers, case studies, and legal frameworks [17]. This approach enables institutional evaluation of digital adoption as well as theological investigation of Sharia compliance. The results of this study show that although digital waqf models, like blockchain-powered registries and micro-waqf crowdfunding platforms, have great potential to improve donor confidence, transparency, and developmental outreach, obstacles like ambiguous regulations, a lack of experience, and doubts about Sharia validity still prevent wider adoption [18].

This study has several ramifications. It emphasizes to policymakers how crucial cross-sector cooperation and clear regulations are to promoting innovation without compromising Islamic principles. It emphasizes how technology may improve productivity, transparency, and social impact for waqf management and Islamic financial organizations [19]. It provides donors and civil society organizations with a vision of waqf as a technologically advanced, accessible, and renewed empowerment tool that is nevertheless deeply rooted in its moral and religious roots. In the end, this study makes the case that waqf can be recast as a vibrant organization that can handle modern issues like poverty reduction, healthcare access, educational equity, and environmental sustainability by combining technological innovation with Islamic traditions.

As a result, this study is unique in its effort to close the gap between the digital economy and Islamic economic theory. It reinterprets waqf as a dynamic, adaptable organization that can change to meet the demands of the contemporary Muslim community and the worldwide quest for sustainable development, rather than as a static holdover from the past [20]. This study contributes conceptually and practically to the ongoing debate about how Islamic institutions can stay relevant in the digital era by putting forth a Digital Waqf Integration Model that combines blockchain-based registries, AI-powered auditing systems, and interactive donor dashboards. By doing this, it provides a model for how waqf might reclaim its historical significance in Muslim societies, this time as a cutting-edge tool for sustainable, accountable, and equitable development as well as a spiritual obligation [21].

LITERATURE REVIEW

Islamic economics, law, and development studies have all extensively examined the function of waqf (Islamic endowment) as a socioeconomic institution [22]. Throughout Islamic history, waqf has been acknowledged as a crucial tool for social welfare and wealth redistribution, funding infrastructure, healthcare, and education. It is frequently referred to as a cornerstone of the Islamic moral economy, highlighting its institutional and legal frameworks under Sharia law as well as its ethical and redistributive aspects [23].

Even though waqf administration has historical relevance, the current study shows that issues like poor governance, a lack of transparency, and asset underutilization still exist. The developmental impact of many waqf organizations is diminished by their continued limitations due to disjointed legal systems and antiquated administrative frameworks. These restrictions have led to demands for creative models and institutional changes that bring waqf into line with contemporary socioeconomic demands [24].

The relationship between waqf and digital technology has been the subject of an expanding corpus of work in recent years. While crowdfunding platforms facilitate micro-waqf initiatives that draw in a larger donor base, pilot projects indicate that blockchain technology can offer tamper-proof registers for waqf assets. Experiences in nations like Malaysia and Indonesia show that by providing transparency and accountability, digital waqf platforms may boost donor confidence and engagement. However, there are still significant barriers to wider implementation, including unclear regulations, a lack of technical know-how, and worries about Sharia compliance [25].

While conventional studies emphasize the lasting relevance of waqf in Islamic communities, more recent discussions emphasize the potential of digital innovation to revive waqf management. Overall, the literature displays both caution and optimism. However, there is still a lack of empirical and multidisciplinary research that connects Islamic economic theory, institutional economics, and digital innovation, as seen by the systemic integration of technology into waqf practice [26].

METHODOLOGY

To investigate how digital technologies might support the resurgence of waqf as a tool for sustainable development, this study uses a qualitative and comparative research design. The study focuses on the institutional structures that affect economic performance as well as the doctrinal facets of Islamic economic law. By integrating these viewpoints, the study ensures that technology innovation is evaluated for both its effectiveness and adherence to Sharia law.

Case studies from Malaysia, Indonesia, Turkey, and the Gulf states, where digital adoption and waqf management reforms are being tested, are critically compared as part of the methodology. Institutional study assesses how governance structures and regulatory frameworks influence the efficacy of digital waqf projects, while legal analysis examines how these initiatives align with Islamic jurisprudence, particularly about maqāṣid al-sharī'ah.

Semi-structured interviews with Sharia scholars, fintech experts, and waqf managers are used to gather primary data, which offers insights into the practical feasibility as well as the doctrinal legitimacy of the concept. Policy documents, academic research, legislative texts, and reports from non-governmental groups and international organizations are examples of secondary data sources. The study creates a Digital Waqf Integration Model that strikes a balance between innovation and moral responsibility by combining doctrinal, institutional, and empirical findings [27].

Table 1. Research Methodology and Analytical Focus

Aspect	Description
Research Approach	Qualitative, comparative legal, institutional, and economic approach
Theoretical Frameworks	Islamic Economic Theory, Institutional Economics, Maqāṣid al-Sharī'ah
Methodology	Doctrinal analysis, institutional assessment, and critical comparative study
Data Sources	Policy documents, legal frameworks, academic research, NGO/government reports, semi-structured interviews
Analytical Focus	Alignment of digital tools with Sharia compliance, governance efficiency, donor trust, and developmental outcomes

RESULTS AND DISCUSSION

Digital Innovation as a Catalyst for Waqf Revitalization

The study shows that one of the main forces behind the revival of waqf institutions is now digital technology. Blockchain technology, internet contribution platforms, and mobile applications have increased accessibility for previously underserved populations. For example, digital waqf platforms in Indonesia democratize participation by enabling donors to make very small contributions, frequently less than \$1. Due to this change, waqf is now widely practiced in the community rather than being seen as the domain of affluent elites. Similar to this, Malaysia's government-supported online waqf programs have simplified the contribution procedure and lowered transaction costs, which have made it easier and more tempting for younger, tech-savvy generations to participate [28].

The waqf system in Malaysia has grown more streamlined and effective as a result of state-backed initiatives that have incorporated digital platforms. Fintech companies and government-affiliated organizations work together to develop user-friendly applications that lower transaction costs and administrative delays. Waqf contributions are becoming a regular component of many Muslims' financial habits due to the ease with which they can be made using mobile wallets or automatic monthly deductions. Crucially, this accessibility appeals to younger, tech-savvy generations who might not use conventional fundraising techniques but are very receptive to digital alternatives. Thus, technology not only broadens participation but also secures intergenerational continuity of waqf practices [29].

The findings also show that the dynamics of donor interaction have been radically altered by digital innovation. Following the original donation, donors and beneficiaries sometimes had little to no communication under traditional waqf methods. Donors had no control over the management or use of their money and were forced to rely solely on trust. However, by adding interactive elements that promote accountability and transparency, digital platforms have changed this paradigm. Donors may now track success metrics like the number of facilities built or beneficiaries reached, receive real-time progress updates on the initiatives they support, and receive fast electronic receipts verifying their contributions. These developments turn donors from passive contributors into active stakeholders by fostering a sense of ownership, an emotional bond, and continued participation [30].

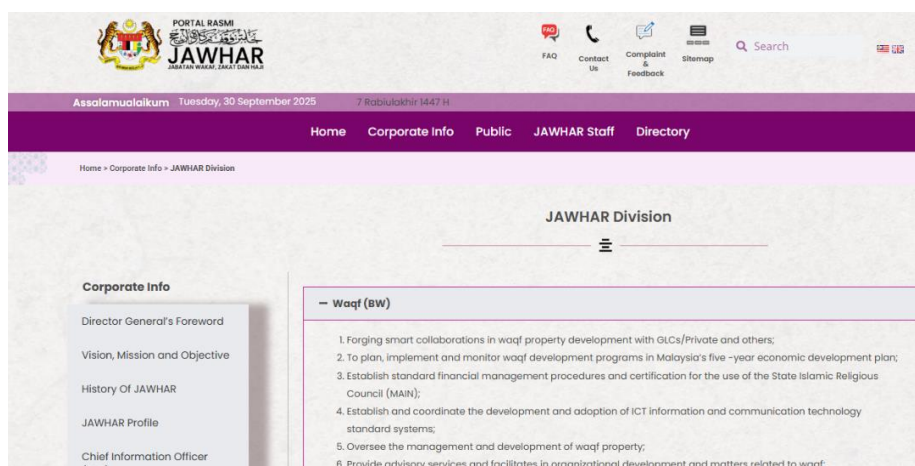


Figure 1. Waqf Portal Malaysia

Governance, Accountability, and Trust

The findings suggest that governance remains the single largest obstacle in sustaining digital waqf operations. Digital waqf platforms are subject to strict regulation and have unambiguous legal support in Turkey, where waqf administration is closely linked to state institutions. By ensuring financial discipline and regulatory compliance, this centralized structure lowers the possibility of fraud or misuse. But such a strong dependence on

governmental power frequently restricts freedom and stifles grassroots creativity. In these extremely bureaucratic systems, community-driven initiatives, which are crucial for local empowerment, can occasionally find it difficult to operate or obtain recognition [31].

Indonesia, on the other hand, offers a decentralized and community-led model in which civil society organizations and local organizations are heavily involved in the creation and administration of digital waqf platforms. With many small-scale initiatives tackling regional needs like microfinance, healthcare, and education, this framework promotes diversity and creativity. However, these programs are susceptible to poor management and sustainability concerns due to insufficient monitoring systems and uneven regulatory control. Long-term stability is weakened by the absence of defined auditing procedures, indicating that digital waqf systems' legitimacy may be jeopardized by flexibility devoid of accountability.

A common feature throughout all of the case studies is trust. Digital platforms that provide immutable transaction records, real-time updates, and quick receipts can improve transparency. However, in the absence of institutional integrity, technology cannot ensure confidence on its own. For instance, there are extremely sophisticated waqf portals in several Gulf states, but donors are still dubious because they believe politics has a say in how the money is distributed. This suggests that while digital tools help to generate trust, maintaining donor confidence still requires ethical governance and independence from undue influence [32].

The overall findings highlight the need for a strong institutional and legal framework that integrates the advantages of decentralized innovation and centralized monitoring for digital waqf to function effectively. Accountability is based on transparent reporting, Sharia conformity, clear regulations, and active community involvement. In this way, technology should be seen as an aid to government rather than a substitute for it. Even the most sophisticated digital waqf systems will not be able to reach their full potential as tools for sustainable development in the absence of institutional legitimacy and moral leadership.

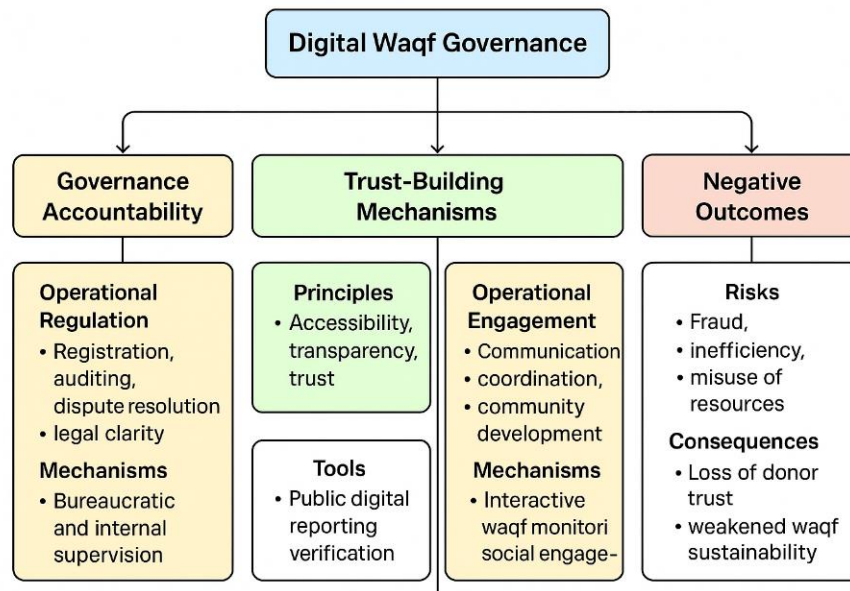


Figure 2. Overview of Digital Waqf Governance

Integration with Broader Development Goals

The results show that digital waqf projects and more general socioeconomic development agendas work well together. Funds raised via digital platforms are increasingly going to vital areas, including infrastructure, healthcare, education, and reducing poverty. For instance, Malaysia has utilized waqf resources to assist affordable housing initiatives and offer scholarships to students from disadvantaged backgrounds. In a similar vein, digital waqf

platforms in Indonesia are enabling local communities to pool their resources to fund the construction of schools and medical facilities, especially in underprivileged rural areas. These illustrations demonstrate how digital waqf is bringing a classic Islamic institution back to life while simultaneously bringing it into line with pressing societal demands [33].

Digital waqf thus directly supports both the global Sustainable Development Goals (SDGs) and national development agendas. Digital waqf contributes to the promotion of chances for lifelong learning and the reduction of disparities in access to knowledge by directing resources toward education. While infrastructure-related projects provide community resilience and growth potential, investments in healthcare projects guarantee better well-being for vulnerable groups. This integration shows how digital waqf can serve as a localized but effective instrument to further international pledges for social justice and equitable development [34].

The efficiency that digital waqf brings to resource mobilization is another important benefit. Digital platforms, in contrast to conventional donation techniques, allow for quick fundraising through real-time campaigns, cutting down on the delay between donor donations and project execution. Beneficiaries will start to feel the benefits much sooner because of this immediacy, which is especially important in emergencies like medical emergencies or disaster relief. Digital waqf's quickness and transparency also boost donor confidence, which promotes recurring donations and sustained involvement.

All things considered, the data points to the possibility that digital waqf could become a useful financial tool for tackling development issues. Its capacity to blend technological innovation with religious inspiration results in an inclusive funding strategy that appeals to a wide range of contributors. Digital waqf offers a sustainable approach to mobilize resources, promote social solidarity, and close the gap between development planning and charitable giving in Muslim-majority nations that are experiencing high levels of poverty and inequality. In this way, digital waqf is a potent force for socioeconomic change in addition to being a charity activity [35].

Table 2. Integration of Digital Waqf with Broader Development Goals

Dimension	Digital Waqf Contribution	Examples	Impact/Outcomes
Education	Funding scholarships and schools	Malaysia: scholarships for underprivileged students; Indonesia: community-funded rural schools	Promotes quality education, reduces inequality, supports SDG 4
Healthcare	Financing medical facilities and urgent health needs	Indonesia: waqf-funded healthcare centers in rural areas	Improves access to healthcare, enhances community well-being, supports SDG 3
Infrastructure & Housing	Supporting affordable housing and community facilities	Malaysia: waqf for affordable housing schemes	Strengthens social resilience, provides shelter for the poor, and supports SDG 11
Poverty Alleviation	Channeling resources to vulnerable populations	Community-based projects in Muslim-majority countries	Reduce

Ethical and Legal Dimensions of Digital Waqf

The study draws attention to the complex moral and legal issues that arise when digital platforms are used for waqf administration. From a theological standpoint, the incorporation

of technology into this centuries-old establishment is highly compatible with the goals of *maqāṣid al-sharī'ah*, especially in terms of advancing equity, accessibility, and the well-being of the community. By democratizing waqf and lowering obstacles to participation, digital platforms enable contributions from people of various socioeconomic backgrounds. This change improves efficiency and inclusivity in practice while also reflecting the moral spirit of waqf as a social justice and redistribution tool [36].

There are still unsolved legal issues despite these developments. The legitimacy of cross-border waqf donations made possible by digital systems is among the most urgent issues. For instance, donors from the Middle East can make contributions to waqf projects in Southeast Asia with never-before-seen ease because of digital payment methods. The globalization of charitable giving promotes unity among Muslims worldwide, but it also brings up challenging issues about Sharia compliance, taxation, and jurisdiction. Legal ambiguity and possible conflicts between national and religious laws arise from the lack of established structures in many countries for managing such international flows [37].

Fraud prevention and digital identity verification present an additional challenge. Blockchain technology has limited practical applications, although it offers promising solutions for guaranteeing transaction transparency and traceability. Widespread adoption is hampered in many Muslim-majority nations by a lack of suitable infrastructure, technical know-how, and regulatory readiness. This undermines the very confidence that digital waqf platforms want to establish by making them susceptible to fraud, poor management, and mistrust from donors. The conflict between institutional capacity and technological potential emphasizes how crucial it is to create robust technical and regulatory ecosystems to foster innovation [38].

Lastly, the study emphasizes how these new ethical and legal issues require ongoing *ijtihād* (jurisprudential reasoning). Waqf procedures are frequently made more difficult by inconsistencies in taxation laws and governance structures in situations where secular and Islamic legal systems coexist. In the absence of continuous legal research and flexible policies, the swift development of digital waqf could surpass the capacity of establishments to adequately oversee it. It is essential to make sure that digital innovation complies with international legal standards while staying firmly within the bounds of Islamic law. In this way, the moral and legal aspects of digital waqf are dynamic issues that call for cooperation between academics, decision-makers, and tech innovators [39].

Table 3. Ethical and Legal Dimensions of Digital Waqf

Dimension	Key Issues	Challenges	Implications
Maqāṣid al-Sharī'ah Alignment	Equity, accessibility, and community welfare through technology.	Ensuring inclusivity across diverse socioeconomic groups.	Democratization of waqf and reinforcement of social justice.
Cross-Border Donations	Contributions from international donors (e.g., the Middle East to Southeast Asia).	Lack of clear legal frameworks for jurisdiction, taxation, and Sharia compliance.	Legal ambiguity, risk of conflicts between national and Islamic laws.
Fraud & Identity Verification	Transparency and traceability of transactions.	Limited blockchain adoption due to poor infrastructure, lack of expertise, and weak regulations.	Risk of fraud, mismanagement, and donor mistrust.
Ijtiḥād and Governance	Need for jurisprudential reasoning to adapt to digital changes.	Overlaps and conflicts between secular taxation laws and Islamic	Urgent requirement for flexible policies and legal innovation to ensure

		governance frameworks.	compliance and legitimacy.
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Toward a Digital Waqf Integration Model

The comparative study emphasizes that there isn't a single, universal strategy for executing digital waqf in nations with a majority of Muslims. Every national environment has its own advantages and disadvantages. Though such reliance on government funding runs the risk of being overly politicized, Malaysia serves as an example of the benefits of state-backed projects that institutionalize waqf into national development objectives. Although this strategy frequently suffers from inadequate monitoring and governance systems, Indonesia offers an alternate option through community empowerment and inclusion expansion through grassroots-driven engagement. Turkey, on the other hand, enjoys robust legislative structures that protect institutional continuity, but excessive centralization restricts local creativity and flexibility. Advanced platforms have been made possible by technology expertise in the Gulf states, but alleged political meddling in waqf distribution has undermined donor faith.

For such integration to be effective, these policies must prioritize fundamental principles of transparency, accountability, and fairness, thereby ensuring that the collection and distribution of Zakat serve the intended purpose of alleviating poverty and promoting social welfare. These comparative observations make it evident that developing hybrid models that capitalize on the benefits of various strategies while minimizing their drawbacks is key to the future of digital waqf. According to the findings, digital waqf should be seen as a multifaceted system that incorporates governance, trust-building, and religious validity rather than as a solely technological fix. Digital platforms run the potential of reproducing rather than eliminating the shortcomings and inefficiencies of conventional waqf systems if these non-technical elements are ignored [\[40\]](#).

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Three interconnected pillars form the foundation of the suggested Digital Waqf Integration Model. The first is technological adaptation, which guarantees that platforms are clear, safe, and usable by a variety of people, including those living in rural or low-income areas. To promote accountability while maintaining inclusivity, the second is Institutional Governance, which advocates striking a balance between community involvement and governmental regulation. The third is Sharia Alignment, which ensures that innovation stays in line with maqāsid al-sharī'ah, maintaining the ethical underpinnings and religious legitimacy of waqf. These pillars work together to guarantee that digital waqf is an institution with a social and spiritual foundation in addition to being a technological advancement [\[41\]](#).

Policymakers, waqf managers, and Islamic financial institutions should use this model as a guide to modernize waqf while maintaining its religious core and optimizing its positive effects on development. The methodology can make waqf a dependable and dynamic instrument for sustainable development by integrating technology into a governance framework that prioritizes inclusivity and accountability and by coordinating procedures with Sharia goals. Beyond environments with a majority of Muslims, the paradigm provides guidance for global philanthropy on how to combine innovation with tradition to provide long-term societal advantages.

Digital Waqf Integration Model

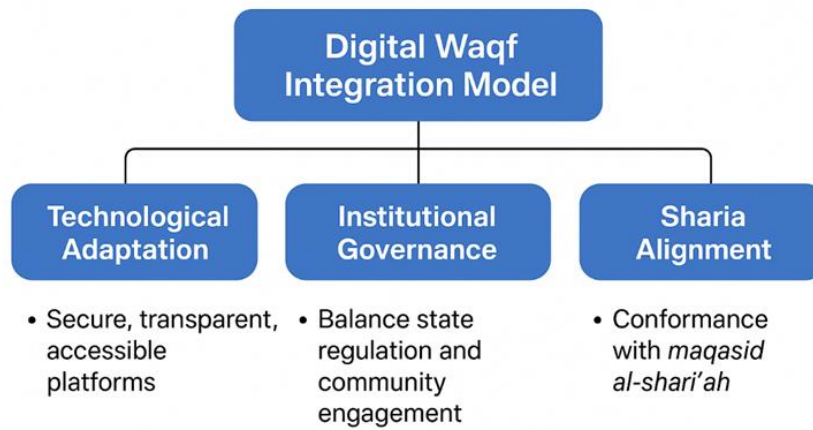


Figure 3. Digital Waqf Integration Model

The figure illustrates the Digital Waqf Integration Model, which consists of three interrelated pillars: Technological Adaptation, Institutional Governance, and Sharia Alignment. Technological adaptation emphasizes developing secure, transparent, and accessible digital platforms to enhance waqf efficiency. Institutional governance focuses on balancing state regulation with community engagement to ensure accountability and inclusivity. Sharia alignment ensures that all innovations conform to *maqāsid al-shari'ah*, preserving the ethical and spiritual foundations of Islamic endowments. Together, these pillars create a holistic framework that integrates modern technology with Islamic values, enabling digital waqf to function as a sustainable, transparent, and socially responsible tool for achieving long-term development and social welfare goals.

Table 4. Digital Waqf Integration Model

Pillar	Key Focus	Strengths	Challenges
Technological Adaptation	Secure, transparent, and accessible digital platforms	Enhances trust, efficiency, and participation (even in rural/low-income areas)	Digital divide, lack of infrastructure, and cybersecurity risks
Institutional Governance	Balance between state regulation and community engagement	Ensures accountability while empowering communities	Risks of over-politicization or weak monitoring structures
Sharia Alignment	Conformance with <i>maqāsid al-shari'ah</i> (justice, welfare, fairness)	Preserves religious legitimacy and ethical foundation	Requires continuous <i>ijtihad</i> to address new technological and legal challenges

Analysis

The study reveals that digital waqf represents a transformative intersection between Islamic economic ethics and technological innovation. It highlights how blockchain, crowdfunding, and online waqf registries can revitalize Islamic endowments as instruments for achieving the Sustainable Development Goals (SDGs). Through comparative evidence from Malaysia, Indonesia, Turkey, and Gulf states, the research identifies a dual pattern: while digitalization enhances transparency, accessibility, and

donor participation, its success depends heavily on governance integrity, legal clarity, and Sharia compliance.

A significant analytical insight is the role of digital waqf in democratizing philanthropy. Micro-waqf initiatives enable broader public participation, including low-income and young donors, transforming waqf from an elite-driven institution into an inclusive social mechanism. Yet, without proper regulatory frameworks, these digital tools risk replicating old inefficiencies in new forms. Blockchain-based solutions offer transparency and fraud prevention, but their effectiveness remains constrained by uneven infrastructure and limited technological literacy across Muslim-majority nations.

The study's Digital Waqf Integration Model—anchored on technological adaptation, institutional governance, and Sharia alignment—presents a practical framework for policy and reform. It proposes that technology should not replace traditional ethics but serve as an enabler for better accountability and inclusivity. The analysis underscores the need for continuous *ijtihad* (jurisprudential reasoning) to reconcile emerging digital realities with Islamic legal norms. Ultimately, digital waqf, when properly governed, has the potential to bridge faith-based finance with sustainable development, reinforcing waqf's historical mission as a catalyst for social equity, education, and poverty alleviation in the modern digital economy.

CONCLUSION

The transformative potential of digital technology in reviving waqf as a pillar of sustainable development in Muslim societies has been examined in this study. Waqf organizations can overcome challenges of underutilized assets, governance inefficiencies, and donor mistrust through blockchain, crowdfunding platforms, online registries, and AI-powered auditing systems. When aligned with *maqāṣid al-sharī'ah*, digital innovation strengthens rather than weakens the ethical and legal foundations of waqf. This transformation directly supports several Sustainable Development Goals (SDGs)—notably SDG 1 (No Poverty) through micro-waqf funding for vulnerable communities, SDG 3 (Good Health and Well-being) via waqf-based healthcare centers, SDG 4 (Quality Education) through scholarships and school construction, and SDG 11 (Sustainable Cities and Communities) by financing affordable housing and infrastructure. Additionally, digital transparency and inclusion promote SDG 16 (Peace, Justice, and Strong Institutions) by fostering accountability and trust in Islamic philanthropy. However, success cannot rely on technology alone. Broader adoption remains constrained by weak regulations, uneven technological maturity, and debates on Sharia compliance. Therefore, strong institutional capacity, cross-sector collaboration, and continuous *ijtihad* are vital to maximize the developmental potential of digital waqf. Ultimately, digital waqf should be understood not merely as a technical innovation but as a paradigm shift—redefining Islamic endowments as transparent, inclusive, and sustainable systems that align faith-based practices with the global SDG agenda, restoring waqf's historical mission as a catalyst for social welfare and human development.

Acknowledgments

The authors sincerely thank The Aga Khan Schools Alumni Network, Kenya; Universitas Muhammadiyah Surakarta, Indonesia; Islamic University in Niger; and Islamic Arabic University, Bangladesh, for their collaboration and academic insights. Their shared commitment to Islamic social finance and digital transformation greatly contributed to developing this research on digital waqf and sustainable development.

Author Contribution

All authors contributed equally to the conception, design, and writing of this study. The first author led the theoretical framework, the second focused on data interpretation, the third refined the analysis of digital waqf models, and the fourth reviewed the manuscript. All authors approved the final version for publication.

Conflicts of Interest

The authors declare no conflicts of interest related to this research. All institutional affiliations—The Aga Khan Schools Alumni Network, Universitas Muhammadiyah Surakarta, Islamic University in Niger, and Islamic Arabic University—had no influence on the study design, data collection, interpretation, or publication decision. The research was conducted independently and transparently.

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