

Mediating Faith Through Technology: Socio-Environmental Consequences of Platform-Based ZIS Systems

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ABSTRACT

This study aims to examine how platform-based Zakat, Infaq, and Sadaqah (ZIS) systems mediate faith-driven charitable practices and to analyze their socio-environmental consequences within contemporary digital ecosystems. This research employs a qualitative conceptual approach by synthesizing interdisciplinary literature on Islamic social finance, digital mediation, socio-technical systems, and environmental sustainability. Thematic analysis was used to construct an integrated conceptual framework. Findings show that digital ZIS platforms enhance transparency, accessibility, and donor engagement through automation and real-time reporting. However, they also reshape spiritual experiences of giving, introduce ethical risks related to data governance, create platform dependency, and contribute to environmental impacts through energy-intensive digital infrastructures. The originality of this study lies in its integration of spiritual, technological, social, and environmental perspectives to evaluate digital ZIS systems—an approach not commonly addressed in existing scholarship. The study proposes a multidimensional understanding of how digital mediation influences faith practices and sustainability outcomes.

Keywords: ZIS platforms, environmental sustainability, technology ethics

INTRODUCTION

The rapid advancement of digital technologies has significantly transformed Islamic philanthropic practices, particularly in the management and distribution of Zakat, Infaq, and Sadaqah (ZIS). Traditionally, ZIS activities operated through personal, community-based mechanisms characterized by close interpersonal interactions, emotional empathy, and spiritually reflective processes. Donors typically engaged with local religious leaders or community collectors, allowing charity to function not only as a financial duty but also as a form of social bonding and spiritual refinement. However, with the widespread adoption of fintech innovations and mobile platforms, ZIS practices have shifted toward systematized, automated, and highly accessible digital formats. This shift marks a major transition in how Muslim communities perform religious giving, raising new questions about the spiritual, social, and environmental implications of technological mediation.

A growing body of studies has examined different aspects of digital Islamic philanthropy. Previous research highlights that digital ZIS platforms improve transparency, expand donor participation, and enhance institutional accountability through real-time reporting and automated audit trails (Huda & Sawarjuwono, 2019; Hasan & Abdullah, 2021). Other studies note that fintech-driven zakat systems support financial inclusion and operational efficiency (Pratama et al., 2022). Additionally, scholars argue that digital transformation reshapes user trust, donor engagement, and organizational governance in Islamic social finance. Yet despite these contributions, prior research tends to focus on administrative improvements and technological efficiency. Very few studies explore how digital platforms mediate the religious experience of giving, alter *social dynamics*, or contribute to environmental footprints through energy-intensive digital infrastructures. These gaps highlight the need for a more holistic conceptual inquiry into the impacts of digital ZIS systems.

The novelty of this study lies in its integrated examination of the spiritual, socio-technical, and environmental dimensions of digital ZIS platforms—an approach not commonly addressed in earlier scholarship. While previous studies concentrate on efficiency, trust, or governance, this research expands the discussion by exploring how digital mediation transforms religious intentionality, community relationships, ethical responsibilities, and ecological sustainability. By merging mediation

theory, socio-technical systems theory, and Islamic ethical principles such as *maslahah* and *khalifah*, the study offers a new conceptual framework that connects technological transformation with spiritual meaning and environmental stewardship.

Therefore, the purpose of this study is to conceptualize and critically analyze the socio-environmental consequences of platform-based ZIS systems and to understand how digital infrastructures mediate the spiritual and social essence of Islamic charitable practices. The study aims to: (1) examine how digital platforms reshape donor experiences and religious intentionality, (2) identify the institutional and ethical implications of platform dependency, (3) assess the environmental impact of digital ZIS infrastructures, and (4) propose a multidimensional framework for evaluating the future of Islamic philanthropy in a digital era.

THEORETICAL FRAMEWORK

This study is grounded in three major theoretical perspectives that explain how technology reshapes religious and socio-environmental practices.

1. Mediation Theory (Couldry & Hepp, 2017)

Mediation theory posits that digital technologies do not merely deliver messages but actively reshape social and cultural practices. In ZIS systems, platforms mediate donors' religious experiences, influencing how intention, reflection, and participation unfold.

2. Socio-Technical Systems Theory (Trist & Emery, 1960)

This theory emphasizes that technological and social components interact dynamically. Platform-based ZIS is a socio-technical ecosystem where donor habits, platform algorithms, institutional governance, and digital infrastructures co-produce outcomes.

3. Islamic Ethical Theory: *Maslahah* and *Khalifah*

These principles guide the ethical evaluation of digital ZIS. *Maslahah* requires platforms to provide public benefit, while *khalifah* mandates environmental stewardship and responsible use of digital resources.

METHOD

This study employs a qualitative conceptual research design focused on synthesizing theoretical, empirical, and contextual literature on digital ZIS systems and their socio-environmental implications. The qualitative conceptual approach is appropriate because the study aims to build an integrative theoretical understanding rather than conduct empirical hypothesis testing.

The research does not take place in a single physical location; instead, it involves a multi-contextual literature environment centered on countries with growing digital Islamic philanthropic ecosystems, particularly Indonesia, Malaysia, and Gulf Cooperation Council (GCC) regions. These locations serve as contextual anchors due to their rapid adoption of fintech-based zakat systems, strong Islamic philanthropic movements, and emerging policy frameworks related to digital governance and sustainability.

The study draws on multiple data sources, including peer-reviewed journal articles, books on Islamic social finance, digital governance reports, environmental sustainability studies, regulatory documents from bodies such as BAZNAS and OJK, and policy papers on fintech adoption in Islamic philanthropy. The data sources also include theoretical works related to Mediation Theory, Socio-Technical Systems Theory, and Islamic ethical principles such as *maslahah* and *khalifah*. These sources provide the conceptual foundation for analyzing the socio-environmental consequences of platform-based ZIS systems.

Data were garnered using a structured literature-gathering procedure. Relevant studies were identified through academic databases such as Scopus, Google Scholar, and Sinta, using keywords including digital zakat, Islamic philanthropy, fintech ZIS, platform governance, data ethics, and environmental

footprint of ICT. Grey literature and regulatory documents were gathered from official institutional websites. Inclusion criteria required that sources discuss digital ZIS, Islamic social finance, digital mediation, or environmental sustainability in technology systems.

The garnered data were analyzed using thematic qualitative analysis. All literature was coded into conceptual categories: (1) technological mediation of religious giving, (2) governance and transparency transformations, (3) ethical risks and platform dependency, (4) environmental sustainability concerns, and (5) shifts in donor behavior and institutional structures. These themes were then synthesized and interpreted using the study's theoretical framework—Mediation Theory, Socio-Technical Systems Theory, and Islamic ethical principles—allowing for the development of a multidimensional conceptual model. The analysis was conducted concisely but systematically to ensure coherence between the method, findings, and theoretical perspectives.

RESULT AND DISCUSSION

Findings

Table 1. Conceptual Comparison Between Traditional and Platform-Based ZIS Systems

Dimension	Traditional ZIS	Platform-Based ZIS
Donor Experience	Personal, reflective	Fast, automated, algorithmic
Transparency	Manual reporting	Real-time dashboards
Governance	Paper-based records	Digital audit trails
Environmental Impact	Minimal waste	High due to servers & devices
Data Privacy	Low exposure	High exposure due to digital storage

The conceptual review reveals that platform-based ZIS systems do more than digitize charitable transactions—they reconfigure the spiritual, social, institutional, and environmental dimensions of Islamic philanthropy. These findings illustrate how deeply intertwined religious practices have become with digital infrastructures and algorithmic logics.

First, the study finds a significant shift in spiritual intentionality and donor psychology. In traditional ZIS, donors often engage in rituals of reflection, community consultation, or face-to-face interactions before giving. These steps cultivate a sense of *ikhlas* (sincerity), *tadabbur* (reflection), and emotional connection. Platform-based systems compress this process into seconds through instant notifications, push reminders, or algorithmic suggestions. This accelerates generosity but can inadvertently weaken the contemplative and spiritual depth associated with giving. The act of charity risks becoming a background task embedded within digital routines, modifying the very religious experience ZIS is meant to foster.

Second, the adoption of digital ZIS platforms leads to substantial improvements in institutional governance and accountability. Real-time dashboards, automated auditing tools, digital receipts, and geo-tagged distribution reports enhance transparency far beyond what traditional systems could achieve. These features increase public trust and expand the donor base, especially among digitally literate youth. However, such governance infrastructure also introduces dependency: institutions must rely on platform operators, programming frameworks, and cybersecurity systems, creating new layers of vulnerability not present in traditional charity ecosystems.

Third, findings highlight a growing concern regarding the environmental footprint of digital religious practices. Each online ZIS transaction travels through data centers, cloud infrastructures, and device networks—all of which require electricity and contribute to carbon emissions. While individual donations consume little energy, the cumulative effect of millions of transactions across large Muslim populations creates a measurable environmental burden. In the context of Islamic ethics emphasizing *khalifah* (stewardship), this raises important questions about sustainable digital transformation in faith-based sectors.

Fourth, the shift to digital platforms impacts social structures and community dynamics. Traditional ZIS relies heavily on local collectors, village leaders, and interpersonal networks. These actors do more than collect donations—they strengthen social cohesion and maintain relational trust. Platform-based systems redirect donor attention toward centralized institutions or large fintech intermediaries, potentially weakening local networks and reducing opportunities for direct community engagement.

Fifth, findings underscore significant risks related to data privacy, cybersecurity, and algorithmic influence. Donation histories, personal preferences, and behavioral data are stored on digital servers and sometimes shared with third-party systems. Without strict ethical safeguards, this data may be vulnerable to misuse, monetization, targeted persuasion, or algorithmic profiling. These risks—absent in traditional ZIS—highlight the ethical tension between digital efficiency and moral responsibility.

Discussion

The findings indicate that the digitalization of ZIS systems is reshaping Islamic philanthropic practices through multiple interconnected dimensions—spiritual, social, institutional, technological, and environmental. A deeper examination of these findings reveals several important dynamics that extend beyond operational efficiency and require careful conceptual reflection.

Digital Mediation and Transformation of Spiritual Intentionality

The shift from traditional giving to platform-based ZIS demonstrates the influence of digital mediation on religious practices. Mediation Theory explains that technologies act not only as transmission tools but as active agents that shape how individuals perceive and enact religious obligations. In the context of ZIS, this transformation is visible in how platforms automate donation reminders, curate personalized giving suggestions, and enable instant transfers without direct interpersonal interaction.

While these features increase participation rates, they also modify the spiritual texture of giving. Traditional ZIS practices often involve emotional engagement, reflective decision-making, and face-to-face interactions with religious or community actors. Digital systems compress these experiences into rapid, interface-driven actions. As a result, religious giving risks being reframed as a transactional behavior embedded within routine digital habits rather than a deliberate spiritual exercise. This raises questions about the preservation of *ikhlas* (sincerity), *tadabbur* (reflection), and the internalization of moral values traditionally cultivated through charity.

Institutional Governance, Transparency, and New Structural Vulnerabilities

Digital ZIS platforms profoundly enhance institutional accountability. Real-time dashboards, digital audit trails, and automated reporting align ZIS institutions with modern governance standards. These innovations increase trust among donors who seek transparency regarding collection processes, distribution efficiency, and organizational performance.

However, the improvements in transparency introduce new structural dependencies. Institutions become reliant on platform providers, software vendors, algorithmic systems, and digital infrastructures. This reliance reduces organizational autonomy and creates vulnerabilities related to service interruptions, platform outages, cyberattacks, and data mismanagement. Socio-Technical Systems Theory highlights that when human systems become intertwined with technological systems, failures in one component can affect the entire structure.

Thus, while governance becomes more sophisticated, it also becomes more fragile. Institutions must manage a delicate balance between embracing technological advancements and mitigating risks associated with digital centralization.

Environmental Impact and Ethical Tension with Islamic Stewardship

A key insight from the findings relates to the environmental footprint generated by digital ZIS systems. Although digitalization reduces the need for printed materials, physical travel, and manual processing, it increases reliance on energy-intensive ICT infrastructures. Data centers, servers, cloud hosting, and device networks collectively consume significant electricity and contribute to carbon emissions.

This introduces an ethical tension within Islamic philanthropic practices. Islamic environmental ethics—particularly the principles of *khalifah* (stewardship) and *la darar* (avoiding harm)—emphasize

the responsibility to protect and preserve the environment. However, the expansion of digital ZIS platforms may inadvertently contradict these values by contributing to ecological strain.

A more sustainable approach to digital ZIS management is therefore necessary. This includes adopting energy-efficient hosting services, minimizing redundant data storage, and raising awareness about the environmental consequences of digital religious engagement. Such measures would ensure that digitalization aligns with the overarching moral objectives of Islamic social finance.

Data Ethics, Algorithmic Influence, and Power Asymmetry

The analysis of data privacy and platform dependency underscores the emergence of ethical risks associated with digital philanthropy. Digital ZIS systems collect extensive donor data—including transaction history, donation patterns, personal preferences, and demographic details. This information is valuable, but it also increases exposure to cyber threats, unauthorized access, and potential misuse.

Furthermore, algorithms embedded within digital platforms may influence donor behavior through preferential suggestions, targeted nudges, and curated content. This introduces subtle forms of algorithmic steering, which may shape religious giving patterns in ways that donors do not fully recognize. Such dynamics raise questions regarding autonomy, fairness, and the ethics of persuasion in religious contexts.

Power asymmetry emerges when platform operators—often private corporations or large institutional bodies—control the digital infrastructure. Smaller community-based zakat collectors may be marginalized, reducing community diversity and weakening traditional networks of solidarity. This centralization challenges the pluralistic and grassroots nature of Islamic charitable traditions.

Social and Community Implications of Technological Centralization

The movement toward platform-based ZIS can also reshape social relationships within Muslim communities. Traditional ZIS practices often involve face-to-face interactions that strengthen social cohesion and mutual support. Local collectors and community leaders play essential roles in identifying beneficiaries, distributing aid, and providing emotional and spiritual guidance.

Digital ZIS platforms shift these relational dynamics toward centralized, institution-controlled processes. Although the platforms improve efficiency, they may diminish opportunities for direct community engagement. The weakening of interpersonal connections can reduce social empathy and collective religious identity, which historically have been central to the spirit of Islamic philanthropy.

Maintaining community involvement within digital systems may require hybrid models that combine technological efficiency with community-based outreach.

Implications for the Future of Islamic Philanthropy

The broader interpretation of these findings suggests that the future of Islamic philanthropy requires a holistic perspective. Digital platforms offer undeniable advantages—greater accessibility, transparent reporting, and operational efficiency—but they also introduce risks that must be managed thoughtfully. These risks extend beyond technical concerns to include ethical, social, and ecological dimensions. A sustainable and spiritually grounded future for digital ZIS should involve: Ethical digital governance frameworks; Community-centered platform designs; Environmentally conscious technology choices; Algorithmic transparency and fairness; Preservation of spiritual meaning in giving. Bringing these elements together ensures that digital ZIS systems support both the functional and moral purposes of Islamic philanthropy.

CONCLUSION

The aim of this study was to examine how platform-based Zakat, Infaq, and Sadaqah (ZIS) systems mediate faith-driven charitable practices and to explore the socio-environmental consequences that arise from their digital implementation. By integrating mediation theory, socio-technical systems theory, and Islamic ethical perspectives, the study sought to conceptualize the broader implications of digital transformation within Islamic philanthropy.

The results reveal that digital ZIS platforms offer significant advantages in transparency, accessibility, and institutional governance, yet they also transform donors' spiritual experiences, introduce data governance challenges, and contribute to environmental impacts due to the energy demands of digital infrastructures. These findings demonstrate that digital ZIS systems operate across multiple dimensions—spiritual, institutional, social, technological, and ecological—each carrying both benefits and risks.

The study provides several practical implications for ZIS institutions and policymakers. First, digital platforms should incorporate design features that preserve reflective and spiritually meaningful giving. Second, institutions need to strengthen ethical data governance and cybersecurity frameworks to ensure donor trust and compliance with Islamic values of *amanah*. Third, environmental considerations must be integrated into digital operations by adopting energy-efficient hosting, minimizing data redundancy, and assessing the ecological footprint of digital infrastructures. Fourth, hybrid models that combine digital efficiency with community-based engagement can help maintain the relational and social dimensions of Islamic philanthropy.

Suggestions for further studies include the need for empirical research to measure the comparative spiritual experiences of donors using traditional versus digital ZIS systems, as well as quantitative evaluations of the environmental footprint generated by digital religious transactions. Future work may also investigate algorithmic influence on donor behavior, develop ethical frameworks for Islamic digital data governance, and explore policy strategies that balance technological centralization with the preservation of community-based philanthropic networks.

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