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DIGITAL TRANSFORMATION IN MOSQUE GOVERNANCE: A TECHNOLOGY-ENABLED OUTREACH MODEL FOR ELDERLY ZAKAT ADMINISTRATION IN KEDAH

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Abstract:

The rapid demographic shift towards an ageing society presents significant socio-economic challenges in Malaysia, particularly within rural and semi-urban states such as Kedah. Although local mosques (*masjid kariah*) serve as important socio-religious hubs, existing mosque-based zakat systems frequently rely on manual, reactive, and fragmented processes. Consequently, vulnerable older persons risk being overlooked, whilst instances of aid duplication persist. Based on a qualitative synthesis of relevant literature and institutional frameworks, this study proposes a conceptual framework titled the Mosque-Led Ecosystem for Zakat Management (MLEZOM) to optimize localized Islamic social finance. Unlike traditional manual and fragmented mosque-based zakat practices, MLEZOM introduces distinct novelty through the systematic integration of digital profiling, youth-assisted community outreach, and multi-tier institutional coordination. The model comprises four core operational pillars: (1) digital profiling and needs assessment, (2) youth-assisted outreach networks, (3) SOP and service delivery development, and (4) impact monitoring and evaluation. By structuring these components into an integrated workflow, the framework aims to reduce the risk of overlooking vulnerable *asnaf* and improve distribution accuracy.

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Ultimately, the proposed model illustrates how localized socio-technical governance can strengthen institutional trust, streamline administrative operations, and maximize the social impact of mosque-based financial distribution.

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Keyword:

Digital Profiling, Islamic Social Finance, Mosque Governance, Older Persons, Zakat Management

Introduction

The trend towards an ageing population worldwide has increased the need for sustainable social protection systems, especially in developing countries (Clark, 2014). In Malaysia, this shift is particularly evident in the northern states such as Kedah, where people aged 60 and over make up 13.7% of the state's population (Department of Statistics Malaysia [DOSM], 2025). As public welfare facilities come under increasing pressure, faith-based organisations have become more and more important as key sources of socio-religious support (Netting & Ellor, 2012). In the past, mosques (*masjid kariah*) have served not only as places of spiritual worship but also as essential community centres that provide senior citizens with opportunities for social engagement, a sense of safety, and physical access (Kalantar et al., 2021).

Zakat is at the heart of the Islamic system of social finance and serves as a required mechanism for the redistribution of assets in order to reduce poverty, promote social solidarity, and protect vulnerable populations such as the elderly who are in financial difficulty (Yalçin, 2016). When managed effectively, outreach efforts for zakat organised by mosques are able to bring together community resources to offer direct healthcare, financial assistance, and socio-economic support (Hakim & Gunawan, 2020). Nevertheless, implementing zakat at the local level is still hindered by administrative difficulties. The current systems based in mosques mostly depend on manual, reactive, and fragmented methods of distribution, leading to a lack of transparency in operations, the repetition of aid, and favouritism (Hakim & Gunawan, 2020).

Previous research has thoroughly described the systems used for the administration of public zakat (Yalçin, 2016) and has assessed the structural appropriateness of age-friendly mosques (Kalantar et al., 2021). Yet there remains a significant research gap concerning how faith-based organisations can put into practice organised, data-based outreach programmes that are

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specifically designed for elderly recipients without at the same time compromising the clarity of their institutions or their accountability (Hakim & Gunawan, 2020).

In order to address this gap, the present paper presents the Mosque-Led Elderly Zakat Outreach Model (MLEZOM), a multi-stage conceptual framework designed to modernise grassroots zakat administration in Kedah. Unlike the traditional, manual and fragmented zakat practices that have previously been carried out in mosques, the proposed MLEZOM framework introduces a new element by systematically combining digital profiling, youth-assisted community outreach, and multi-tier institutional coordination into a unified operational ecosystem. The model aims to reduce aid duplication and lower the risk of neglecting vulnerable seniors (*asnaf terlepas pandang*) by aligning institutional policy with mobile data collection and volunteer networks. The key contribution of this study is the introduction of a scalable, technology-enabled operational model which effectively links state zakat authorities with *kariah*-level management. The rest of the paper is organized as follows: Section 2 provides a review of the literature on Islamic social finance and gerontological welfare; Section 3 gives a detailed account of the proposed conceptual model (MLEZOM); Section 4 sets out the research methodology and pilot roadmap; Section 5 examines the strategic policy implications; Section 6 identifies possible operational obstacles together with mitigation strategies; and Section 7 concludes the paper.

Literature Review

In Islamic social protection systems, religious organisations, especially mosques, play a vital role by acting as the main channels for providing welfare at the community level. In the past, mosque administrations have provided an important safety net for vulnerable groups by giving immediate assistance in the form of food, medical treatment, and financial help to elderly people who are usually unable to deal with the formal welfare systems of the state. (Suhardi & Fisol, 2020) Yet, relying solely on uncoordinated, direct acts of almsgiving leaves the institutions open to weaknesses. As has been pointed out in the existing literature, informal or poorly organised zakat distributions often suffer from a lack of administrative transparency, corruption, and favouritism, all of which reduce the reliability of the support given to the poor elderly. Therefore, even though mosques have the necessary geographical presence and social-religious status to carry out local outreach, their administrative efficiency is regularly undermined by poorly structured systems of governance (Ahmad, 2020).

In order to go beyond mere survival-level charity, the current body of literature on Islamic social finance stresses the need to link zakat systems with the general aims of *Maqasid al-Shariah*, in particular the preservation of life (*hifz al-nafs*) and wealth (*hifz al-mal*). It is argued by scholars that for welfare to be effective, it is necessary to combine direct cash assistance with structural empowerment, ensuring that the help given promotes social dignity and independence rather than leading to a state of permanent economic dependence. When it comes to care for the elderly, putting *Maqasid al-Shariah* into practice means broadening the concept of welfare so as to go beyond financial help and include physical accessibility, social inclusion, and integrated health services. Initiatives such as mosque-based charitable clinics based in mosques and special training centres show that faith-based capital can successfully improve living standards once it is incorporated into organised welfare programs.

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In recent years, the rapid advancement of digital transformation has started to alter the way mosques are governed and zakat is administered, moving institutions from relying on manual record-keeping to using technology-based management (Asni et al., 2025; Hude et al., 2026; Nugroho et al., 2023). Technologies such as mobile apps, online distribution platforms, and Smart Mosque Digital Technology (SMDT) simplify working procedures, enhance financial transparency, and enable real-time monitoring of zakat disbursements (Aspizain et al., 2025; Puspito et al., 2026). With regard to gerontological welfare, digital transformation provides important remote access options for the elderly who have serious difficulties with mobility (Muyassarah et al., 2025; Ninglasari & Muhammad, 2021). By facilitating remote applications, caretaker-assisted intake, and spatial mapping, digital tools increase the scope of zakat distribution and ensure that vulnerable senior citizens are no longer being ignored (Muyassarah et al., 2025). On the other hand, introducing digital systems into faith-based governance leads to particular challenges, such as the lack of digital skills among senior administrators, worries about *Shariah* compliance, and the great need to maintain public confidence in digital platforms (Arsad et al., 2025; Asni et al., 2025).

Even though these new methods are appearing, there is still a considerable tension between the passive distribution of zakat and actively empowering the beneficiaries. Although conditional cash transfers and skills training programmes are more frequently recommended for younger *asnaf* groups, elderly recipients suffer from special physical, cognitive and mobility difficulties which prevent them from taking part in ordinary economic empowerment schemes. Moreover, physical obstacles in the building of the mosque usually stop elderly members of the congregation from taking part in social and religious activities and thus increase their sense of isolation. This mismatch in the structure shows there is an important theoretical gap: Zakat distribution models cannot regard the elderly population as ordinary welfare recipients; rather, they need special outreach arrangements that take into account their physical weakness while at the same time respecting their personal dignity and independence.

Overcoming these systematic deficiencies requires robust legal, administrative, and technological frameworks. Recent legal and fatwa-related analyses show that the effectiveness of local zakat administration depends on institutional transparency, well-defined administrative responsibilities, and compliance with fatwa decisions at the state level (Arsad et al., 2025). If the local *amil* committees' function without standard operating procedures or with no integrated system for tracking data, aid distribution becomes irregular, so that some recipients get their aid duplicated while other isolated elderly people are entirely ignored. It is therefore essential to set up transparent distribution procedures via digital portals and to carry out regular impact assessments in order to protect the integrity of the institutions and to rebuild the public's trust in social financing managed by the mosque (Aspizain et al., 2025; Puspito et al., 2026).

In order to provide a theoretical basis for the transition of mosque committees and local communities from paper-based procedures to digital systems, this study makes use of the Unified Theory of Acceptance and Use of Technology (UTAUT) (Taiwo & Downe, 2013). As the UTAUT indicates, technology adoption is primarily influenced by two key factors: Performance Expectancy (PE), which refers to the extent to which a user believes that a system will improve their job performance (for example, by speeding up the identification of *asnaf*), and Effort Expectancy (EE), which is the degree to which a user finds the system easy to use (for instance, through a mobile interface with low entry barriers) (Gao et al., 2025; Sari et al., 2023). Importantly, empirical research has demonstrated that age and technological experience

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function as significant moderators within the UTAUT framework (Herlambang et al., 2024; Magsamen-Conrad et al., 2015). In the context of mosque administration, senior committee members (*AJK Masjid*) place a strong emphasis on high Effort Expectancy and therefore require a system that is intuitive and user-friendly with as few training obstacles as possible in order to promote acceptance (Felber et al., 2024). On the other hand, younger users, such as youth volunteers (*pemuda kariah*), are mainly motivated by high-Performance Expectancy and are concerned with how well the system enhances spatial mapping and data collection (Magsamen-Conrad et al., 2015). It is therefore essential to design an outreach model that strikes a balance between smooth usability (for the senior AJKs) and process efficiency (for the youth volunteers) if sustained institutional acceptance is to be ensured.

It becomes clear when the various viewpoints on the subject are combined that if faith-based organisations are to continue to provide care for the elderly then there must be a change of approach, moving away from a reactive system based on paper records towards an integrated outreach system that makes use of data. Modernising zakat outreach in mosques doesn't involve abandoning the traditional social and religious values but instead involves strengthening them through the introduction of organised operating procedures, transparent data management, easy-to-use electronic systems, and community facilities that are suitable for older people. Mosques will be able to successfully bridge the gap between the state's zakat authorities and the welfare needs at the grassroots level of an ageing population by combining transparent administration with technology acceptance as predicted by the UTAUT model and carrying out focused, proactive outreach.

The Proposed Conceptual Framework

In order to overcome the widespread vulnerabilities and lack of operational transparency that characterise traditional zakat administration, this study proposes the Mosque-Led Elderly Zakat Outreach Model (MLEZOM). As shown in Figure 1, the model combines state-level institutional governance with community-level implementation through four closely linked stages. Instead of replacing the existing socio-religious structures, MLEZOM modernises the management at the *kariah* level by setting up a structured, technology-assisted pipeline which turns macro-level policy into dignified social security for vulnerable older people.

The initial stage, Institutional Governance, establishes the framework within the realm of state authority by coordinating between Lembaga Zakat Negeri Kedah (LZNK) and Jabatan Hal Ehwal Agama Islam Negeri Kedah (JHEAIK) the processes of policy formulation, zakat supervision, and strategic planning. This top-down coordination ensures the legal validity, financial resources, and administrative authority needed to grant research access and to give operational standardisation across the *kariah* mosques.

In the second stage, Community Intervention, grassroots outreach is carried out through an intergenerational synergy. Young local volunteers (*pemuda kariah*) are trained to use a mobile digital profiling application when making door-to-door visits to households. This digital method takes the place of paper records and enables the real-time identification of *asnaf*, the creation of a spatial map, and the collection of field data in order to discover isolated or bedridden elderly people who are usually ignored by passive walk-in systems (*asnaf terlepas pandang*).

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In order to achieve seamless digital data collection in both connected and remote *kariah* areas, MLEZOM makes use of a well-structured, multi-layered Technological Architecture and Data Schema Specification (see Table 1). This architecture ensures that data collected in the field is transferred securely from mobile devices to the state-level administrative dashboards.

Table 1: System Architecture and Data Schema Specification for MLEZOM

System Layer	Component Architecture	Technical Specifications & Operational Logic
Input Layer	Mobile Profiling App (Android/Web UI)	• Offline-first data capture caching entries locally in remote zones. • Automated background syncing upon establishing cellular or Wi-Fi connectivity. • Low-barrier UI optimized for youth volunteers and co-verification by senior AJKs.
Data Fields Schema	Field Assessment Metrics	• Demographic profile (National ID, Household Size, Age). • Socio-economic indicators (Monthly Household Income, Aid Duplication Check). • Health & Mobility Metrics (Bedridden status, Chronic Illness, Disability). • Spatial Mapping Data (GPS Geolocation tag, Household Accessibility score).
Database Layer	Cloud Data Repository	• AES-256 encrypted cloud database hosted on secure server infrastructure. • Role-Based Access Control (RBAC): Admin level (LZNK/JHEAIK policy access); *Kariah* level (Read/Verify access for *AJK Masjid*). • Full compliance with Personal Data Protection Act (PDPA 2010) standards.
Output Layer	Decision-Support Dashboard	• Automated spatial vulnerability maps identifying elderly poverty clusters. • Prioritized monthly payout schedules based on health-income vulnerability indexing. • Real-time audit trail and disbursement tracking reports for LZNK auditors.

Source: Authors'

In the third stage, that of SOPs and the development of service delivery, raw data gathered in the field is turned into practical governance tools. The profiles that have been collected are fed into a secure, centralised cloud database, which enables data analytics, the management of the beneficiary registry, and verification. At the same time, this knowledge is used to prepare standardised operating procedures (SOPs) tailored for mosque committees (*Ahli Jawatankuasa*), setting up clear protocols for the intake of beneficiaries, the distribution of funds, and for carrying out regular welfare checks.

In order to put these structural outputs into practice, MLEZOM uses a five-stage Standard Operating Procedure (SOP) and service delivery development workflow (Table 2) to lead the *kariah* mosque committees through each stage of beneficiary management.

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Table 2: *Kariah* Mosque Operational SOP and Service Delivery Development Workflow Schema

SOP Stage	Operational Action	Responsible Entity	Governance & Verification Metric
Step 1: Intake & Profiling	Conduct door-to-door digital household assessment via mobile app.	Youth Volunteers (*Pemuda Kariah*)	Completed mobile digital profile + GPS household coordinate tag.
Step 2: Grassroots Verification	Review field data, confirm *asnaf* status, and cross-check local credibility.	Senior Mosque Committee (*AJK Masjid*)	Formal digital endorsement in *Kariah* Admin Portal.
Step 3: State Sync & Audit	Automated cloud transmission of endorsed profiles to state database.	LZNK & JHEAIK System Interface	Cross-database validation to prevent aid duplication across agencies.
Step 4: Proactive Disbursement	Direct transfer of zakat aid (cash/medical supply) to beneficiary home.	Mosque Delivery Team / LZNK Finance	Digital proof-of-delivery capture (timestamped photo & signature/thumbprint).
Step 5: Impact Monitoring	Conduct periodic digital reassessments of health and living status.	Joint *Kariah*-Youth Team	Bi-annual registry update in cloud system.

Source: Authors'

The last stage, Community Impact, is the full achievement of the framework's aims. MLEZOM aims to facilitate social protection for the elderly by making data-driven and respectful zakat distributions a permanent feature of the system. This involves providing timely financial help, offering targeted healthcare support and establishing sustainable community care systems, which in turn removes the problem of duplicated aid and reduces poverty among the elderly in keeping with the broader aims of *Maqasid al-Shariah*.

Methodology and Pilot Roadmap

In order to put the MLEZOM into practice and to verify it, a 24-month convergent parallel mixed-methods design based on a Participatory Action Research (PAR) approach is used. This method is carried out in two separate phases and provides a balance between the qualitative depth of diagnosis and the quantitative scope, covering five mosques in Kedah which represent urban, semi-urban, suburban and deeply rural settings: Masjid Zahir (Kota Setar), Masjid Al-Busyra (Kuala Muda), Masjid Sharifah Fatimah (Kubang Pasu), Masjid Jamek Tuan Guru Haji Abd Aziz (Pendang), and Masjid Ridzwaniah (Baling).

Phase 1 (Months 1–12) focuses on situational analysis and community mapping. Qualitative data gathered via semi-structured Key Informant Interviews (N=15) and Elderly Recipient Interviews (N=25) will undergo thematic analysis using NVivo to map operational leakages and lived beneficiary experiences. Concurrently, a structured survey (N=150) will be evaluated

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using SPSS descriptive statistics to measure community perception of zakat equity and digital readiness. Phase 2 (Months 13–24) transitions into co-design and pilot execution, where researchers and mosque administrators co-create a cloud-based mobile digital profiling tool and localised SOP manuals. The structural execution and data sampling scope across both phases are summarised in Table 3.

Table 3: Operationalization Roadmap and Fieldwork Scope

Phase	Operational Focus	Key Activities & Methodology	Data Scope & Target Output
Phase 1 *(Months 1 – 12)*	Situational Analysis & Community Mapping	• Qualitative interviews with Imams, AJKs, and elderly recipients. • Quantitative community surveys. • Participatory spatial mapping of elderly clusters.	• 15 Key Informant Interviews • 25 Elderly Recipient Interviews • 150 Congregation Surveys • 5 Spatial Vulnerability Maps
Phase 2 *(Months 13 –24)*	Co-Design, Tool Prototyping & Pilot Execution	• Rapid prototyping of mobile profiling tool (cloud interface). • Formulation of Zakat-Elderly SOP Manual. • Capacity-building workshops with AJKs & youth volunteers.	• 1 Pilot-Ready Digital Profiling System • 1 Standardised SOP Guide • 5 Localized Training Workshops • Policy Brief for LZNK & JHEAIK

Source: Authors'

The pilot deployment outlined in this roadmap makes sure that the digital solutions remain easy to access, culturally appropriate, and technically feasible for *kariah* administrators, thus providing a validated example for full-statewide adoption.

Strategic Implications and Expected Impact

The Mosque-Led Elderly Zakat Outreach Model (MLEZOM) has significant strategic consequences at institutional, organisational, and community levels. At the institutional level, the model addresses the gap between the state's broad governance (carried out by Lembaga Zakat Negeri Kedah and Jabatan Hal Ehwal Agama Islam Negeri Kedah) and the actual implementation at the *kariah* level. Through the introduction of a standardised and evidence-based framework, MLEZOM gives state authorities a conceptual blueprint by which to modernise the delivery of Zakat services, thus supporting the government's objectives regarding digital transformation and the ageing of the population. The various strategic outputs, namely the pilot-ready digital profiling tool, the spatial vulnerability maps, and the policy infographics, provide decision-makers with useful information which enables them to distribute resources in the most effective way, reduce duplication of aid, and systematically detect hidden elderly poverty (*asnaf terlepas pandang*).

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At the lowest level, the framework changes the mosque's role from one of simply giving alms to that of an active social protection centre made possible through the use of technology. By providing mosque committees (*Ahli Jawatankuasa*) and young volunteers (*pemuda kariah*) with easy-to-use digital tools and standard operating procedures (SOPs), intergenerational cooperation is encouraged and the local administrative capabilities are improved. For older beneficiaries, the change means that they will no longer have to go through complicated and paper-based application processes but instead will receive proactive, respectful visits door to door. In this way, MLEZOM shows how faith-based social finance can be modernised so as to achieve transparent, fair and sustainable community well-being while still being firmly based on the Islamic principles of *Ukhuwah* and *Maqasid al-Shariah*.

Challenges and Mitigation Approaches

To turn the Mosque-Led Elderly Zakat Outreach Model (MLEZOM) into a workable grassroots initiative it is necessary to deal with both the systemic obstacles supported by literature and the practical difficulties that arise in rural *kariah* areas. The various kinds of risks identified in Table 4 include administrative governance failures as well as technological, infrastructural, and legal compliance obstacles.

Table 4: Operational Challenges, Legal Governance, and Targeted Mitigation Approaches

Challenge Domain	Operational Vulnerability & Impact	Strategic Mitigation Strategy	Key Citations
Administrative & Governance Inefficiency	• Ineffective distribution, lack of transparency, and patronage risk. • Legal ambiguity in local *amil* authority undermining trust.	• Implement cloud-based digital registries and automated audit trails. • Formulate standardised SOPs backed by JHEAIK mandates.	Clark (2014); Hakim & Gunawan (2020); Khairi et al. (2023)
Recipient Dependency & Aid Alignment	• Uncoordinated cash handouts fostering long-term reliance. • Misalignment with broader national welfare policies (e.g., SDGs).	• Transition to conditional cash transfers and holistic healthcare integration. • Align zakat outreach with national aging and social protection frameworks.	Asyifa et al. (2024); Elhag (2026); Esa et al. (2025); Sa'adah & Hasanah (2021)
Structural & Environmental Barriers	• Mosque facilities lacking physical accessibility for frail elderly. • Risk of missing isolated or bedridden	• Upgrade mosque environments to be age friendly. • Deploy youth volunteers (*pemuda kariah*) for proactive door-to-door profiling.	Kalantar et al. (2021); Latief (2010); Woodward (2022)

	individuals (*asnaf terlepas pandang*).		
Digital Literacy & Tech Resistance	• Older mosque committee members (*AJK Masjid*) experiencing tech anxiety or resisting digital transition.	• Pair digital youth volunteers with senior AJKs in a dual-verification workflow; design ultra-low-barrier, simplified UI interfaces under UTAUT guidelines.	Felber et al. (2024); Herlambang et al. (2024); Magsamen-Conrad et al. (2015)
Data Privacy & Legal Compliance (PDPA 2010)	• Exposure of sensitive financial, medical, and personal identity data of elderly *asnaf*. • Vulnerability of older adults to cyber deception and data breach risks.	• Execute strict Personal Data Protection Act (PDPA 2010) compliance protocols. • Implement data anonymization, AES-256 encrypted database storage, and proxy-assisted consent workflows.	Ahmad Nawi et al. (2025); Aleke (2024); Daud & Rasiah (2023); Razlan et al. (2026); Shahul Ikram (2024); Tan et al. (2025)
Connectivity & Network Infrastructure	• Unstable cellular network coverage in remote rural quadrants (e.g., Baling, Pendang).	• Implement offline-first mobile data capture with automatic cloud synchronization upon establishing connectivity.	Field Challenge

Source: Authors'

The administrative weaknesses identified in previous literature are due to operational opacity, the lack of a structured way of distributing funds, and the possibility of corruption, all of which tend to undermine confidence in faith-based social finance (Clark, 2014; Khairi et al., 2023). Moreover, the legal ambiguity concerning the management of amil at the *kariah* level could lead to a decline in institutional authority (Hakim & Gunawan, 2020). In order to address these problems in the area of governance, MLEZOM uses a transparent cloud-based database together with clear standard operating procedure guidelines that have been jointly designed with LZNK and JHEAIK.

In addition to the gaps identified in the literary review, the actual implementation reveals important limitations concerning human resources, technology, and cybersecurity. The resistance shown by the older members of AJK to the use of digital tools can be reduced by setting up an intergenerational partnership based on the UTAUT principles, under which young volunteers are in charge of data entry while the senior committee members carry out the verification (Felber et al., 2024; Magsamen-Conrad et al., 2015). In order to overcome the connectivity problems in rural areas such as Baling, the mobile interface includes the ability to capture data offline, which then synchronises automatically when reconnection is achieved.

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1. Important is the fact that digitising welfare records for older people in Malaysia brings about serious legal and cybersecurity risks, since elderly individuals there are more vulnerable to cyber deception and digital scams as a result of their limited awareness of cybersecurity (Ahmad Nawi et al., 2025; Razlan et al., 2026; Tan et al., 2025). In order to adhere strictly to the requirements of the Malaysian Personal Data Protection Act (PDPA 2010) and to ensure the validity of the data relating to the beneficiaries, MLEZOM incorporates three fundamental security measures (Aleke, 2024; Daud & Rasiah, 2023; Shahul Ikram, 2024). Data Anonymisation and Pseudo-Identification: Sensitive personal information (e.g., National Identification numbers and medical records) is masked at the local app tier and stored using pseudo-random identifiers to prevent unauthorised identity mapping during field assessments (Daud & Rasiah, 2023).
2. Encrypted Database Storage and Access Control: Cloud databases utilise AES-256 encryption at rest and TLS 1.3 in transit. Role-Based Authorisation Control (RBAC) restricts full unmasked data access strictly to authorised LZNK/JHEAIK officers, while *AJK Masjid* users view masked local operational registries (Shahul Ikram, 2024).
3. Informed Consent and Proxy Protocols: Given low digital competency among vulnerable seniors, physical and digital verbal/thumbprint consent protocols are integrated into the mobile tool. When cognitive or physical impairment limits direct consent, authorised primary caregivers or *AJK Masjid* proxies co-sign the data collection disclosure (Ahmad Nawi et al., 2025; Razlan et al., 2026).

By pairing structural governance and UTAUT-driven user workflows with strong PDPA 2010 cybersecurity compliance, the proposed model reliably mitigates operational risks, transforming mosque-led zakat management into a safe, dignified, and legally compliant social safety net (Aleke, 2024; Elhag, 2026; Esa et al., 2025).

Conclusion

This study conceptualises the MLEZOM as a multi-stage framework that transforms grassroots zakat administration from manual, reactive almsgiving into an efficient, tech-enabled social protection system for older persons in Kedah. Theoretically, the paper adds to the Islamic social finance literature by demonstrating how *Maqasid al-Shariah* can be operationalised via data-driven governance and intergenerational synergy, successfully bridging state macro-policies with micro-level *kariah* execution. Practically, the framework supplies state authorities, such as Lembaga Zakat Negeri Kedah (LZNK) and Jabatan Hal Ehwal Agama Islam Negeri Kedah (JHEAIK), a proposed blueprint featuring mobile profiling tools, spatial vulnerability maps, and standardised operating procedures (SOPs) intended to minimise aid duplication and identify hidden elderly poverty (*asnaf terlepas pandang*). Notwithstanding its tactical potential, this study is conceptually bounded, relying on theoretical synthesis prior to empirical fieldwork execution across the five selected quadrant mosques. Consequently, prospective research should empirically validate MLEZOM through post-pilot field data, assess the long-term digital literacy retention among mosque committees, and examine the framework's extendibility to other State Islamic Religious Councils across Malaysia.

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Ethics Statement: This paper presents a conceptual framework and research protocol based on a synthesis of existing literature, policy documents, and institutional frameworks. For the preliminary conceptual development of this framework, no direct human participant testing or clinical trials were conducted.

For the prospective 24-month fieldwork and pilot implementation outlined in the methodology, the research protocol has been designed in strict accordance with the ethical guidelines of the institutional research ethics committee. Institutional ethical approval will be formally obtained from the University Research Ethics Committee prior to the commencement of Phase 1 field data collection.

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