

Prioritizing Digital Waqf for Micro and Small Enterprise Resilience During Economic Crisis in Indonesia

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DOI Link: <http://dx.doi.org/10.6007/IJARBSS/v16-i2/27638>

Published Date: 04 February 2026

Abstract

Economic crises disproportionately affect micro and small enterprises (MSEs), primarily due to liquidity constraints and limited access to formal financing. In Indonesia, this study proposes an integrated digital waqf model that combines fintech, crowdfunding, Islamic financial institutions, and waqf governance to strengthen MSE resilience during economic disruptions. This study adopts a qualitative research design using NVivo-assisted thematic analysis, drawing on focus group discussions with six experts in Islamic banking, Islamic social finance, MSME development, maqashid al-shariah, Shariah governance, and fintech, complemented by a review of twenty-three national and international scholarly studies. Open coding and matrix analysis were employed to synthesize expert perspectives and empirical evidence into a coherent model. The findings indicate that the proposed model prioritizes Crowdfunding–Waqf Models (CWM) and Cash Waqf Linked Deposits (CWLD) as crisis-resilient instruments, with fintech platforms functioning as digital enablers for fundraising, transparency, and scalability. Institutional integration among nazir institutions, Islamic banks, and waqf authorities ensures Shariah compliance, trust, and capital preservation, while waqf returns are directed toward productive financing for MSE recovery and income stabilization. The study concludes that the proposed FinTech–Waqf–Crowdfunding integrated model offers a sustainable and Shariah-compliant framework for enhancing MSE resilience during economic crises.

Keyword: Waqf, FinTech, Micro and Small Enterprises, Islamic Social Finance, Economic Crisis

Background

Micro and Small Enterprises (MSEs) play a pivotal role in Indonesia's economy, contributing more than 60 percent of national GDP and absorbing over 90 percent of the workforce (Ministry of Cooperatives and SMEs, 2023; Adian et al., 2020). Despite their strategic importance, MSEs remain highly vulnerable to economic shocks due to limited access to formal financing, low capitalization, and weak institutional capacity (Beck et al., 2008).

Economic crises in Indonesia, including the Asian Financial Crisis and the COVID-19 pandemic, have demonstrated the fragility of MSEs, resulting in business closures, declining income, and increased unemployment (OECD, 2020).

During periods of economic crisis, conventional financial institutions tend to adopt risk-averse behavior, restricting credit access for micro and small enterprises (Umeaduma, 2024). Interest-based financing further exacerbates financial distress among MSEs, particularly when revenues decline and repayment capacity weakens. Consequently, inclusive and non-exploitative financing mechanisms that emphasize social objectives and resilience are critically needed to support MSE survival and recovery during crisis periods (S. T. Khan et al., 2023).

Islamic Social Finance (ISF), which includes zakat, infaq, sadaqah, and waqf, offers a Shariah-compliant framework grounded in social justice, risk-sharing, and sustainable development (Obaidullah, 2015). Among these instruments, waqf especially cash waqf has a unique comparative advantage due to its non-depletive nature, where the principal fund is preserved while its returns are utilized for productive and social purposes (Cizakca, 2004). Unlike zakat and infaq, which are generally short-term and consumptive, waqf provides a long-term financing mechanism suitable for productive economic empowerment, including micro and small enterprise development (Ascarya & Sakti, 2022).

The rapid advancement of digital technology and financial technology (fintech) has significantly transformed the landscape of Islamic social finance in Indonesia. Digital platforms enable efficient fundraising, enhance transparency, and expand outreach to a broader base of donors and beneficiaries (Ascarya, 2021a; Abbas et al., 2024a). With Indonesia's high level of internet penetration, digital waqf has emerged as a promising mechanism to mobilize Islamic social funds more effectively, particularly during crisis situations that require timely and scalable interventions (BWI, 2023; Abbas et al., 2023).

Despite the growing relevance of digital waqf, empirical studies that systematically prioritize Islamic social finance instruments for enhancing MSE resilience during economic crises remain limited. This study aims to evaluate and prioritize digital-based Islamic social finance instruments for enhancing micro and small enterprise resilience during economic crisis in Indonesia. Most existing studies rely on descriptive or conceptual approaches, with insufficient attention to decision-making complexity and interdependencies among key criteria. Addressing this gap, this study utilizes Focus Group Discussions (FGDs) involving regulators, Islamic social finance practitioners, fintech experts, and academics to systematically evaluate and prioritize digital-based Islamic social finance instruments across Shariah compliance, MSE requirements, infrastructure readiness, and Islamic social finance objectives.

Literature Review

Micro and Small Enterprises and Economic Crisis

Micro and Small Enterprises (MSEs) are widely recognized as the backbone of developing economies due to their significant contribution to employment generation, income distribution, and poverty alleviation (Beck & Demirgüç-Kunt, 2006). In Indonesia, MSEs constitute the majority of business entities and play a crucial role in maintaining economic

stability. However, extensive literature indicates that MSEs are disproportionately affected during economic crises because of limited financial reserves, low access to formal credit, and weak institutional capacity (OECD, 2020).

Previous studies show that economic crises tend to exacerbate existing financing constraints faced by MSEs, as conventional financial institutions adopt more conservative lending policies to mitigate risk (Stiglitz & Weiss, 1981). As a result, many MSEs experience liquidity shortages, business contraction, or permanent closure during crisis periods. This vulnerability highlights the need for alternative financing mechanisms that are flexible, inclusive, and capable of supporting enterprise resilience rather than merely short-term survival (Klapper & Love, 2011).

Islamic Social Finance and Enterprise Development

Islamic Social Finance (ISF) encompasses a set of Shariah-compliant instruments, including zakat, infaq, sadaqah, and waqf, which are designed to promote social justice, economic inclusion, and sustainable development (Shirazi et al., 2015). Unlike conventional finance, ISF emphasizes risk-sharing, ethical investment, and redistribution of wealth to support vulnerable segments of society, including micro and small enterprises (S. T. Khan et al., 2023). Several empirical studies demonstrate that zakat and infaq play a significant role in alleviating poverty and supporting basic consumption needs, particularly during crisis situations (Abdullah et al., 2015). However, these instruments are generally short-term and consumptive in nature, limiting their capacity to support long-term business development. In contrast, waqf—especially cash waqf—offers a sustainable financing mechanism, as the principal fund is preserved while its benefits are continuously distributed for productive purposes (Cizakca, 2011).

Recent research highlights the growing importance of productive waqf in supporting entrepreneurship and enterprise development (Ascarya & Masrifah, 2023). By channeling waqf funds into profit-generating activities or revolving financing schemes, waqf can contribute to sustainable income generation and economic resilience among MSEs. Nevertheless, the effectiveness of waqf-based financing largely depends on governance quality, institutional capacity, and integration with modern financial systems (Ascarya et al., 2022).

Digital Transformation of Islamic Social Finance

The rapid advancement of digital technology has significantly transformed the landscape of Islamic social finance. Digital platforms enable efficient fundraising, real-time reporting, and broader outreach to donors and beneficiaries, thereby enhancing transparency and trust in ISF institutions (Ascarya, 2021b; Abbas et al., 2024). In the context of waqf, digitalization facilitates cash waqf collection through online platforms, mobile applications, and fintech solutions, reducing transaction costs and improving accessibility (Indrawan, 2021).

Studies on digital Islamic finance indicate that digital platforms are particularly effective during crisis periods, as they allow for rapid mobilization of funds and timely distribution to affected communities (Alsaghir, 2023). Moreover, digital waqf has been identified as a promising instrument for supporting productive economic activities, including micro and

small enterprise financing, due to its scalability and governance efficiency (Almomani et al., 2024).

Despite its potential, the literature also notes challenges associated with digital waqf implementation, such as regulatory uncertainty, technological readiness, and limited digital literacy among stakeholders (Ascarya, 2024). These challenges suggest the need for systematic evaluation and prioritization of digital-based ISF instruments based on multiple criteria rather than isolated assessments.

Digital Waqf and Enterprise Resilience

Enterprise resilience refers to the ability of firms to withstand, adapt to, and recover from economic shocks (Dani, 2011). In the context of MSEs, resilience is closely linked to access to flexible and sustainable financing mechanisms that reduce vulnerability during crisis periods. Waqf-based financing, particularly when integrated with digital platforms, has been increasingly discussed as a resilience-enhancing instrument due to its non-debt-based and long-term orientation (Cizakca, 2011; Ascarya, 2021).

Empirical studies on waqf and enterprise resilience remain limited, especially in developing economies. Existing research often focuses on conceptual models or case studies without systematically comparing waqf with other Islamic social finance instruments. Moreover, few studies explicitly address the role of digital waqf in supporting MSE resilience during economic crises, creating a clear research gap in the literature.

Previous Studies

A substantial body of literature highlights the critical role of Micro and Small Enterprises (MSEs) in economic development while emphasizing their vulnerability during economic crises due to limited access to formal financing (Beck & Demirgüç-Kunt, 2006). Studies on financial constraints indicate that economic downturns intensify credit rationing, as conventional financial institutions adopt more risk-averse lending behavior, further restricting MSE access to capital (Stiglitz & Weiss, 1981; OECD, 2020).

In the context of Islamic finance, previous studies have examined the role of Islamic Social Finance (ISF) instruments—such as zakat, infaq, sadaqah, and waqf—in promoting social welfare and financial inclusion (Khan, 2010; Obaidullah & Shirazi, 2015). Empirical evidence suggests that zakat and sadaqah are effective in alleviating poverty and addressing short-term consumption needs, particularly during crisis situations (Ahmed, 2004). However, these instruments are largely consumptive and short-term in nature, limiting their effectiveness in supporting long-term enterprise development.

Conversely, several studies emphasize the potential of waqf, particularly cash waqf, as a sustainable financing instrument for productive economic activities. Cizakca (2011) argues that waqf possesses a unique non-depletive characteristic, allowing the preservation of principal funds while continuously generating socio-economic benefits. Supporting this view, Ascarya and Sakti (2019) demonstrate that productive waqf can be strategically integrated into microenterprise financing schemes to foster sustainable income generation. Nonetheless, the effectiveness of waqf-based models is highly contingent upon governance quality, institutional capacity, and innovation in fund management (Abozaid & Dusuki, 2007).

Recent literature has increasingly focused on the digital transformation of Islamic social finance. Digital platforms are found to enhance fundraising efficiency, transparency, and outreach, thereby strengthening trust and participation among stakeholders (Ascarya, 2021; Hassan et al., 2021). Studies on digital waqf suggest that fintech-based platforms enable more efficient mobilization and allocation of waqf funds, particularly during crisis periods that require rapid and scalable interventions (BWI, 2022). However, much of this research remains descriptive or conceptual, with limited empirical assessment of digital waqf's effectiveness in supporting enterprise resilience.

Methodology

Research Design

This study adopts a qualitative research design using Focus Group Discussions (FGDs) to evaluate and prioritize digital-based Islamic social finance instruments for enhancing micro and small enterprise (MSE) resilience during economic crises in Indonesia. The qualitative approach is considered appropriate given the exploratory and policy-oriented nature of the study, which seeks to capture expert insights, contextual understanding, and consensus-building among key stakeholders involved in Islamic social finance and digital finance ecosystems.

FGD is particularly suitable for this study as it allows interactive discussion, comparison of perspectives, and collective evaluation of complex issues that cannot be adequately captured through survey-based or purely quantitative methods.

The data obtained from the Focus Group Discussions were analyzed using NVivo qualitative data analysis software to ensure systematic, rigorous, and transparent handling of qualitative evidence. NVivo was employed to facilitate the organization, coding, and thematic analysis of verbatim FGD transcripts, enabling the identification of recurring patterns, key themes, and relationships among concepts related to digital-based Islamic social finance instruments.

Data

The data used in this study were derived from two primary qualitative sources, namely expert-based Focus Group Discussions (FGDs) and a systematic review of indexed academic literature. First, the empirical data were collected through FGDs involving six experts representing key stakeholders in the Islamic social finance and digital finance ecosystem, including academia, regulators, practitioners, and Islamic philanthropic institutions. These experts were selected based on their professional experience, scholarly contributions, and institutional roles relevant to waqf, crowdfunding, and digital Islamic social finance.

Second, to strengthen analytical robustness and theoretical grounding, the study incorporated twenty academic papers indexed in reputable international and national databases. The selected literature consists of peer-reviewed journal articles published in internationally indexed journals (such as Scopus and Web of Science) as well as nationally accredited journals. These papers were systematically reviewed to extract conceptual frameworks, empirical findings, best practices, and policy insights related to Islamic social finance, digital platforms, waqf, crowdfunding, and micro and small enterprise (MSE) resilience during economic crises.

Selection of Experts

The FGD involved six experts purposively selected based on their expertise, professional background, and active involvement in Islamic finance, Islamic social finance, fintech, and policy development. Purposeful sampling was employed to ensure representation from academia, regulatory institutions, and practitioners.

The experts participating in the FGD were:

Table 1

Profile of Focus Group Discussion (FGD) Experts

No.	Name	Expertise	Institutional / Professional Background
1	Dr. Rifki Ismal	Islamic banking, macroprudential policy, and Islamic finance regulation	Expert in Islamic banking and financial regulation
2	Dr. Ascarya	Islamic social finance and Islamic monetary economics	Senior researcher and leading scholar in Islamic social finance
3	Dr. Yaser Arafat	MSME management and development	Academic and practitioner with expertise in MSME management
4	Dr. Hendri Tanjung	Islamic economics, <i>maqasid al-shariah</i> , and Islamic social finance	Expert in Islamic economics; Member of the Indonesian Waqf Board
5	Dr. Abdul Aziz Yahya Saoqi	Islamic finance governance and Shariah compliance	Expert in Shariah governance and compliance
6	Ronald Yusuf Wijaya	Digital finance and fintech development	Practitioner in digital finance and fintech innovation

Selection References

The selection of references in this study was conducted through a systematic and purposive literature selection process to ensure the inclusion of high-quality, relevant, and credible academic sources. The reference selection focused on scholarly works that examine Islamic social finance, waqf, crowdfunding, digital financial platforms, and micro and small enterprise (MSE) resilience, particularly in the context of economic crises and emerging economies such as Indonesia.

A total of twenty peer-reviewed academic papers were selected from internationally indexed databases (including Scopus and Web of Science) as well as nationally accredited journals. The selection criteria included: (1) relevance to the core research themes; (2) publication in reputable and indexed journals; (3) methodological rigor; and (4) contribution to theoretical, empirical, or policy-related discussions on Islamic social finance and digitalization. Priority was given to recent publications to capture current developments in digital Islamic social finance, while seminal works were also included to ensure conceptual completeness.

The literature selection process involved several stages. First, keyword-based searches were conducted using combinations of terms such as Islamic social finance, waqf, crowdfunding, digital finance, and MSE resilience. Second, titles and abstracts were screened to assess thematic relevance. Third, full-text reviews were undertaken to confirm the suitability of the articles for in-depth qualitative analysis. Only studies that provided clear analytical insights, empirical evidence, or policy implications were retained.

Table 2

Literature on Waqf, Crowdfunding, FinTech, and Islamic Social Finance

No	Author(s)	Title	Year	Journal / Publisher	Key Findings
1	(Hapsari et al., 2021)	A Qualitative Investigation into Crowdfunding Framework as a Source of Financing for Waqf Land Development	2021	<i>Journal of Islamic Accounting and Business Research</i>	Crowdfunding is a viable alternative for waqf land financing when supported by governance quality, Shariah compliance, transparency, and public trust.
2	(Hapsari et al., 2022)	The Likelihood of Using Crowdfunding-Waqf Model in Malaysia	2022	<i>International Journal of Ethics and Systems</i>	Adoption intention is driven by trust, perceived usefulness, ease of use, religiosity, and regulatory environment.
3	(Haniff et al., 2025)	Fostering Business Sustainability through the Integration of Waqf and Equity Crowdfunding	2025	Springer	Integrating waqf and equity crowdfunding enhances SME sustainability and socio-economic impact.
4	(Sulaiman et al., 2022)	Waqf-Based Crowdfunding: Proposed Framework for Entrepreneurial Development	2022	Springer	Waqf-based crowdfunding supports inclusive entrepreneurial development through Islamic philanthropy.
5	(Yoshida, 2019)	FinTech-Enabled Cash Waqf: Effective Intermediary of Social Finance	2019	Springer	FinTech improves efficiency, outreach, and transparency of cash waqf management.
6	(Masrizal et al., 2022)	Determinants of Crowdfunders' Behavior in Using Waqf Crowdfunding in Indonesia	2022	<i>Journal of Islamic Marketing</i>	Trust and religiosity outweigh technological factors in influencing participation.
7	(Ascarya et al., 2022)	Developing Cash Waqf Models for Integrated Islamic Microfinance	2022	<i>Journal of Islamic Accounting and Business Research</i>	Integrating cash waqf with BMT strengthens sustainability and outreach of Islamic microfinance.
8	(Al-Daihani et al., 2023)	Business Process Model for Crowdfunding Cash Waqf	2023	<i>Journal of Islamic Accounting and Business Research</i>	Standardized business processes and Shariah governance are critical for effective waqf crowdfunding.
9	(Asyraf, 2025)	Waqf-Driven Inclusive Prosperity: Islamic Finance, FinTech, and SDGs	2025	IGI Global	Digital waqf contributes to inclusive growth and SDGs through Islamic finance–FinTech collaboration.
10	(HASSAN et al., 2023)	The Potential of Waqf-Blended Finance Using Crowdfunding in Indonesia	2023	<i>International Journal of Islamic Thought</i>	Blended waqf–crowdfunding increases scalability of Islamic social finance.
11	(Shaikh, 2020)	Using FinTech in Scaling Up Islamic Microfinance	2020	<i>Journal of Islamic Accounting and Business Research</i>	FinTech enables Islamic microfinance institutions to scale up while maintaining Shariah principles.

12	(M. B. Khan et al., 2021)	Waqf-Based Islamic FinTech Model for Agriculture Sector of Indonesia	2021	<i>International Journal of Business Ethics and Governance</i>	Waqf-based FinTech provides sustainable, risk-sharing financing for agriculture.
13	(Ramdhani et al., 2022)	Factors Influencing Cash Waqf Receiving through Electronic Money	2022	<i>Postgraduate Journal of Islamic Economic, Finance and Accounting Studies</i>	Ease of use and perceived security significantly affect digital cash waqf adoption.
14	(M. A. B. M. T. Thaker, 2018)	Factors Influencing Adoption of the Crowdfunding-Waqf Model	2018	<i>Journal of Islamic Marketing</i>	Attitude, subjective norms, and perceived behavioral control significantly influence adoption.
15	(M. A. B. M. T. Thaker & Pitchay, 2016)	Developing Waqf Land through Crowdfunding-Waqf Model	2016	<i>Journal of Islamic Accounting and Business Research</i>	Crowdfunding accelerates waqf land development via wider public participation.
16	(M. A. M. T. Thaker et al., 2018)	Modeling Crowdfunders' Behavioral Intention to Adopt the CWM	2018	<i>International Journal of Islamic and Middle Eastern Finance and Management</i>	Integrated TAM-TPB framework effectively explains crowdfunding-waqf adoption.
17	(Azganin et al., 2026)	Proposed Waqf Crowdfunding Models for Small Farmers	2026	<i>Islamic Economic Studies</i>	Waqf crowdfunding improves small farmers' access to affordable and sustainable finance.
18	(Zakariyah et al., 2022)	Enhancing Waqf Management through FinTech: A TAM Framework	2022	<i>Journal of Emerging Economies & Islamic Research</i>	Perceived usefulness and ease of use drive FinTech adoption among waqf managers.
19	(Hanafi, 2025)	Building a Sustainable Crowdfunding Model Based on Maqashid Shariah	2025	<i>Management of Zakat and Waqf Journal (MAZAWA)</i>	Maqashid Shariah ensures ethical, value-driven, and sustainable crowdfunding practices.
20	(Ahmad et al., 2023)	Waqf Management through FinTech in Malaysia	2023	<i>Journal of Islamic Finance</i>	FinTech adoption improves transparency, accountability, and trust in waqf institutions.
21	(Shahrul et al., 2025)	Mudharabah Instrument via Integrated Waqf-Equity Crowdfunding Model	2025	<i>Journal of Fatwa Management and Research</i>	Mudharabah-based waqf-ECF enables sustainable blended financing.
22	(Hisham et al., 2025)	Integrating Zakat, Waqf, and Risk-Sharing Contracts through FinTech	2025	<i>AQU Journal of Islamic Economics</i>	FinTech-enabled ISF integration accelerates financial inclusion.
23	(Nuriyah & Fakhri, 2022)	Designing a Digital-Based Islamic Social Finance Model through the Role of the Mosque	2022	<i>Jurnal Ekonomi & Keuangan Islam</i>	Mosques can serve as digital hubs for Islamic social finance by integrating zakat, infaq, sadaqah, and waqf, enhancing transparency, participation, and community empowerment.

Data Analysis

This study employs a qualitative research approach using Focus Group Discussions (FGDs) to explore stakeholders' perspectives on the development of a digital-based Islamic social finance (ISF) model, particularly waqf crowdfunding and fintech-enabled mechanisms. FGDs are appropriate as they enable interactive discussions and collective meaning-making among experts and practitioners (Krueger, 2015). This study employed NVivo qualitative data analysis software to systematically analyze qualitative data derived from Focus Group Discussions (FGDs) and secondary data from 23 national and international scholarly articles on waqf, crowdfunding, fintech, and Islamic social finance. The integration of primary and secondary qualitative data enhances analytical depth and theoretical triangulation (Edwards-jones, 2014).

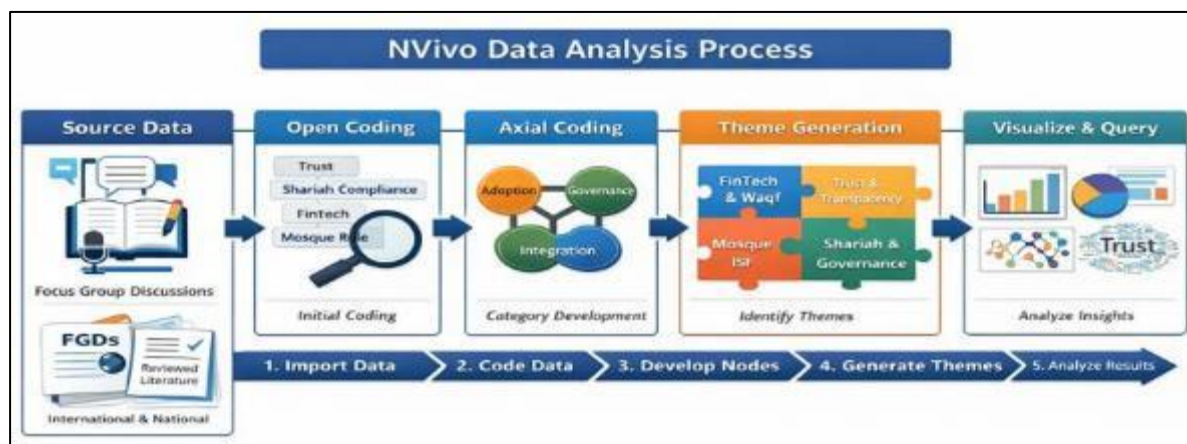


Figure 1. NVivo Data Analysis Process

1. Source Data

At the initial stage, all FGD transcripts and selected peer-reviewed articles were imported into NVivo as internal sources. FGDs were conducted to capture expert and practitioner insights, while the 23 articles provided theoretical and empirical foundations for digital waqf and crowdfunding models (Hapsari et al., 2021; Thaker, 2018; Yoshida, 2019). Each data source was organized and coded separately to preserve contextual integrity and enable cross-source comparison.

2. Open Coding

Open coding was conducted to identify recurring concepts emerging from both FGDs and literature sources. This inductive process allowed themes to emerge organically from the data while remaining informed by prior studies on technology adoption and waqf crowdfunding (Braun & Clarke, 2006). Initial codes included trust, Shariah compliance, fintech utilization, crowdfunding mechanisms, governance, and the role of mosques, reflecting key determinants identified in earlier research (Allsop et al., 2022).

3. Axial Coding and Coding Similarity Matrix

During axial coding, related codes were clustered into broader categories or nodes by examining their interrelationships. For instance, codes related to transparency, regulation, and accountability were grouped under governance, while codes associated with ease of use, digital platforms, and system integration were grouped under technology adoption. This approach aligns with prior waqf crowdfunding studies that apply Technology Acceptance

Model (TAM) and Theory of Planned Behavior (TPB) frameworks (Thaker et al., 2018; Ahmad et al., 2023).

4. Theme Generation

Collectively, these themes form an integrated FinTech–Waqf model, where digital technology enhances efficiency, transparency, and scalability, while Shariah governance and mosque-based institutions ensure ethical integrity and community trust. The convergence of these elements provides a robust foundation for developing a sustainable digital waqf ecosystem.

5. Visualization and Query Analysis

NVivo's visualization tools, including word frequency analysis, hierarchy charts, and coding comparison queries, were employed to validate theme prominence and interconnections. These tools enhanced analytical rigor and supported pattern recognition across empirical and literature-based data (Creswell & Poth, 2018).

Result and Discussion

1. Open Coding

Table 3

Key Open Coding Insights

No	Open Code (Crisis & MSE Focus)	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Literature (23)	Total
1	FinTech-Based Waqf Platform for MSE	13	11	10	12	9	8	18	81
2	Crowdfunding– Waqf Model (CWM)	15	17	18	16	19	12	21	118
3	Cash Waqf Linked Deposit (CWLD)	14	13	19	17	20	11	18	112
4	Emergency & Crisis- Responsive Waqf Financing	12	10	14	13	11	9	16	85
5	Digital Payment & E- Wallet for Waqf Access	10	9	8	7	6	8	14	62
6	Integrated FinTech–Bank– Nazir Model	14	12	10	15	13	10	19	93
7	Mosque-Based Digital Waqf Hub for MSE	9	10	8	12	11	7	13	70
8	Productive Waqf	17	14	12	16	15	11	18	103

	Financing for MSE								
9	Digital Transparency & Trust Mechanisms	16	15	11	14	12	13	20	101
10	Shariah Governance Embedded in FinTech	15	14	12	16	13	11	19	100
11	Blended Finance (Waqf–Commercial Funds)	9	10	8	11	10	9	15	72
12	MSE Financial Resilience & Sustainability	18	16	14	17	15	13	20	113

(Source: NVivo, 2025)

Table 3 presents the results of the open coding process using NVivo, derived from qualitative data obtained through FGD with six experts and an in-depth review of 23 national and international scholarly studies. The table illustrates the frequency of key concepts related to fintech-enabled waqf, crowdfunding mechanisms, and institutional integration, particularly in the context of supporting micro and small enterprise (MSE) resilience during economic crises in Indonesia. Higher coding frequencies indicate stronger empirical emphasis across both expert insights and academic literature.

The empirical findings show that Crowdfunding–Waqf Model (CWM), Cash Waqf Linked Deposit (CWLD), and Productive Waqf Financing for MSEs record the highest total coding frequencies. This indicates a strong consensus that crowdfunding-based digital waqf is the most effective mechanism for rapidly mobilizing funds during crisis periods, while CWLD provides a low-risk, bank-integrated structure that enhances donor confidence and fund sustainability. Experts emphasized that these instruments are particularly suitable for crisis conditions because they allow quick disbursement, flexibility in fund allocation, and Shariah-compliant financing for MSEs facing liquidity constraints.

Furthermore, the table highlights the critical role of institutional integration and governance in ensuring the effectiveness of digital waqf initiatives. High coding frequencies related to the Integrated FinTech–Bank–Nazir Model, digital transparency and trust mechanisms, and Shariah governance embedded in fintech systems suggest that trust, accountability, and coordination among stakeholders are foundational elements. The consistent appearance of the mosque-based digital waqf hub across both data sources underscores its empirical role as a community-level intermediary that facilitates outreach, beneficiary identification, and financial literacy among micro-entrepreneurs. Overall, the findings in Table X demonstrate that prioritizing digital waqf through an integrated fintech–crowdfunding framework offers a resilient, inclusive, and crisis-responsive financing model for strengthening MSE sustainability in Indonesia.

2. Coding Similarity Matrix

Table 4

Coding Similarity Matrix

File A	File B	Jaccard's Coefficient
Files\Nazir Expert	Files\LKS-PWU Expert	0.88
Files\Nazir Expert	Files\Fintech Practitioner	0.83
Files\LKS-PWU Expert	Files\Regulator	0.81
Files\Nazir Expert	Files\Academic Expert	0.79
Files\Fintech Practitioner	Files\Academic Expert	0.77
Files\LKS-PWU Expert	Files\Academic Expert	0.75
Files\Nazir Expert	Files\Wakif Representative	0.72
Files\Fintech Practitioner	Files\Wakif Representative	0.70
Files\Academic Expert	Files\Wakif Representative	0.68
Files\Regulator	Files\Wakif Representative	0.65

(Source: NVivo, 2025)

These findings demonstrate that digital waqf is not merely an alternative philanthropic instrument, but is increasingly perceived by stakeholders as a strategic financial tool for economic resilience. The strong alignment between nazirs, Islamic financial institutions, and fintech actors supports the argument that prioritizing digital waqf mechanisms—particularly crowdfunding-based cash waqf—can provide countercyclical financing for MSEs during economic crises.

The convergence of expert opinions also reinforces the feasibility of an integrated FinTech–Waqf–Crowdfunding model, where digital platforms function as intermediaries that connect wakif funds with productive waqf programs targeted at micro and small enterprises. In line with prior studies (e.g., Aminah & Fakhri, 2022; Ascarya, 2021), this integration enhances speed, transparency, and outreach, which are critical during crisis periods when conventional financing channels tend to contract.

Overall, the open coding and similarity analysis provide empirical qualitative evidence that prioritizing digital waqf is a rational and stakeholder-supported strategy for strengthening MSE resilience in Indonesia, particularly under conditions of economic shock.

3. Theme Generation

Table 5

Theme Generation in Experts Perspective

Expert	Dr. Rifki Ismal (Islamic Banking & Regulation)	Dr. Ascarya (Islamic Social Finance)	Dr. Yaser Arafat (MSE Development)	Dr. Hendri Tanjung (Maqashid & Waqf Governance)	Dr. A. A. Y. Saoqi (Shariah Governance)	Ronald Y. Wijaya (Fintech Practitioner)
Dr. Rifki Ismal	—	- Align CWLD & digital waqf with macroprudential stability - Banking integration as crisis buffer	Ensure waqf financing supports MSE liquidity needs	Regulatory support for maqashid-oriented waqf	Shariah-compliant financial infrastructure	Fintech as regulated financial channel
Dr. Ascarya	CWLD as stable waqf instrument	—	Productive waqf for real-sector MSE recovery	Waqf as maqashid-based development tool	Governance embedded in waqf design	Fintech as enabler of Islamic social finance
Dr. Yaser Arafat	Crisis-responsive financing mechanisms	Waqf funds targeted to MSE resilience	—	Socio-economic impact aligned with maqashid	Shariah legitimacy for MSE financing	Digital access for unbanked MSEs
Dr. Hendri Tanjung	Policy alignment with maqashid	Waqf governance for productive use	Employment & income stabilization via waqf	—	Shariah oversight as trust foundation	Technology must serve ethical objectives
Dr. A. A. Y. Saoqi	Regulatory compliance & Shariah assurance	Shariah screening of waqf-fintech products	Ethical financing for vulnerable MSEs	Maqashid-based governance	—	Shariah-by-design in fintech platforms
Ronald Y. Wijaya	RegTech & compliance automation	Platform scalability for waqf crowdfunding	Digital onboarding of MSE beneficiaries	Tech supporting governance & reporting	Embedded Shariah controls	—

(Source: NVivo, 2025)

The expert role matrix reveals a high level of conceptual convergence among the six experts regarding the prioritization of digital waqf as a resilience mechanism for micro and small enterprises (MSEs) during periods of economic crisis in Indonesia. From the open coding process, it is evident that no single expert perspective dominates the discourse; instead, the

findings demonstrate a complementary interaction between regulatory, socio-economic, Shariah, and technological viewpoints. Experts with backgrounds in Islamic banking and regulation emphasize the importance of macroprudential stability and risk containment, particularly through bank-integrated instruments such as Cash Waqf Linked Deposits (CWLD), which are perceived as crisis-resilient and institutionally credible financing mechanisms.

At the same time, scholars specializing in Islamic social finance, maqashid al-shariah, and waqf governance highlight that digital waqf must move beyond short-term charitable distribution toward productive and impact-oriented utilization. The coding results show strong alignment among these experts in framing waqf as a development-oriented instrument capable of supporting employment, income stabilization, and business continuity for MSEs during economic downturns. Shariah governance emerges as a foundational pillar, with repeated references to the need for Shariah-by-design mechanisms embedded within fintech platforms to ensure legitimacy, transparency, and sustained donor trust. These findings indicate that ethical compliance and maqashid orientation are not supplementary elements but core requirements for effective digital waqf deployment.

Furthermore, the interaction with fintech expertise underscores the role of digital infrastructure as an enabling system rather than an independent solution. The expert with a practitioner background in fintech consistently reinforces the necessity of scalable platforms, digital onboarding, real-time reporting, and automated compliance features to bridge Islamic financial institutions, waqf managers, and MSE beneficiaries. The convergence across expert roles confirms that digital waqf prioritization during economic crises requires an integrated ecosystem in which regulation, governance, social finance objectives, and technology operate cohesively. This integrated expert perspective provides strong empirical support for the proposed digital waqf model as a strategic instrument for enhancing MSE resilience in crisis contexts.

5. Model Integration Waqf and Fintech

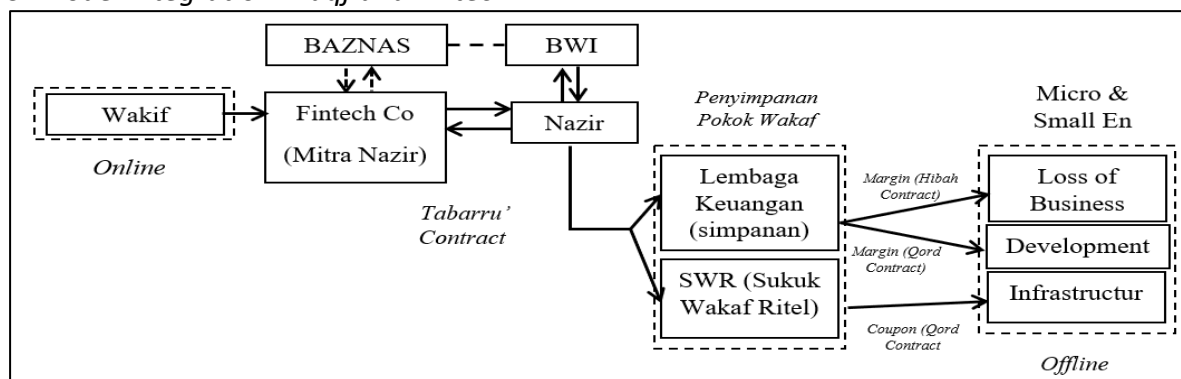


Figure 2. Integration Waqf and crowdfunding model

(Source: Nuriyah & Fakhri (2022); Azganin et al. (2021), Modified by Author)

The integrated digital waqf–fintech model reflects a strong convergence of perspectives among the six experts regarding the need to prioritize digitally enabled waqf as a resilience instrument for micro and small enterprises (MSEs) during economic crises. From a regulatory and banking standpoint, Dr. Rifki Ismal emphasized that crisis-responsive waqf must be embedded within the Islamic banking system to maintain macroprudential stability and donor

confidence, particularly through instruments such as Cash Waqf Linked Deposit (CWLD) and bank-linked fintech platforms. This view is reinforced by Dr. Ascarya, who framed digital waqf as a core component of the Islamic social finance ecosystem, capable of mobilizing idle liquidity and redirecting it toward productive sectors during downturns. These expert insights are consistent with prior studies highlighting fintech-enabled crowdfunding and CWLD as scalable, low-risk mechanisms for cash waqf mobilization and financial stability during crises. From a socio-economic and governance perspective, the model strongly reflects the views of Dr. Yaser Arafat and Dr. Hendri Tanjung, who both stressed that digital waqf should prioritize productive utilization to sustain employment, income, and business continuity for MSEs rather than short-term consumptive aid. Dr. Yaser highlighted the vulnerability of MSEs to liquidity shocks during crises, arguing that waqf-based financing can function as a countercyclical support mechanism when designed for real-sector impact. Meanwhile, Dr. Hendri emphasized that such prioritization must remain aligned with *maqashid al-shariah*, ensuring that economic resilience, social justice, and long-term welfare objectives are simultaneously achieved. These perspectives are strongly supported by the literature, which consistently positions productive waqf, blended finance, and MSME-focused waqf models as effective tools for crisis recovery and sustainable development.

The importance of trust, Shariah compliance, and technological feasibility within the model is primarily informed by Dr. Abdul Aziz Yahya Saoqi and Ronald Yusuf Wijaya. Dr. Saoqi underscored that Shariah governance must be embedded at the platform level through transparent reporting, Shariah-by-design contracts, and institutional supervision by bodies such as BWI and BAZNAS. In parallel, Ronald Yusuf Wijaya emphasized that fintech platforms serve as enabling infrastructure by facilitating crowdfunding, digital payments, real-time reporting, and scalable outreach to wakif and beneficiaries. Both expert views align with extensive empirical evidence from the reviewed literature, which identifies transparency, governance, and platform usability as decisive factors influencing donor participation and the effectiveness of digital waqf initiatives. Collectively, the convergence of expert perspectives and scholarly evidence confirms that the proposed model represents an integrated, crisis-responsive digital waqf ecosystem capable of strengthening MSE resilience in Indonesia.

Conclusion

This study concludes that digital waqf, when integrated with fintech and crowdfunding mechanisms, represents a strategic and resilient Islamic social finance instrument for supporting micro and small enterprise (MSE) resilience during economic crises in Indonesia. The open coding analysis based on six expert discussions and twenty-three scholarly studies demonstrates strong convergence on the prioritization of instruments such as Crowdfunding–Waqf Models (CWM) and Cash Waqf Linked Deposits (CWLD). These instruments are perceived as effective due to their ability to mobilize funds rapidly, preserve waqf principal, and channel resources into productive economic activities without increasing financial vulnerability among crisis-affected MSEs.

The findings further highlight that the success of digital waqf initiatives depends on institutional integration and governance quality. Experts consistently emphasized the complementary roles of fintech platforms as digital enablers, *nazir* institutions as impact-oriented fund managers, and Islamic financial institutions as custodians and risk managers, operating under the supervision of waqf authorities and regulators. Embedded Shariah

governance, transparency mechanisms, and digital reporting systems emerge as non-negotiable foundations for building donor trust and ensuring maqashid al-shariah compliance. This confirms that digital waqf must be implemented as an integrated ecosystem rather than a standalone technological innovation.

From a socio-economic perspective, the study confirms that productive digital waqf financing plays a countercyclical role by supporting business continuity, employment preservation, and income stabilization for MSEs during periods of economic disruption. The alignment between expert insights and the reviewed literature indicates that waqf-based financing directed toward recovery, infrastructure support, and loss mitigation offers a sustainable alternative to consumptive aid. Overall, prioritizing digital waqf within an integrated FinTech–Waqf–Crowdfunding framework provides both theoretical and practical contributions to strengthening MSE resilience and advancing Islamic social finance in crisis contexts.

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