JOURNAL OF ECONOMICATE STUDIES
https://journal.islamicateinstitute.co.id/index.php/joes

Islamic Sustainability Modeling of Halal Startups in Indonesia Using Decision Tree Techniques

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Abstract

The rapid growth of halal startups in Indonesia reflects increasing consumer demand for ethical, sharīʿah-compliant goods and services. Despite this momentum, many startups face sustainability challenges stemming from limited access to Islamic finance, underdeveloped policy ecosystems, and a lack of integration with Islamic ethical frameworks. This study applies a conceptual decision tree methodology to identify the most critical factors influencing halal startup sustainability in Indonesia. Using qualitative data, the analysis incorporates variables aligned with maqāṣid al-sharīʿah, such as founder religiosity, access to sharīʿah-compliant capital, and ethical governance structures. Findings reveal that startups exhibiting alignment with Islamic values—particularly in funding, innovation, and management—demonstrate higher long-term viability. The decision tree model enables a systematic visualization of these relationships, providing theoretical and practical insights for entrepreneurs, policymakers, and Islamic economists. This approach contributes to Islamic economics by demonstrating how normative frameworks can be transformed into predictive models that support ethical entrepreneurship across Muslim markets.

Keywords: *halal startup, Islamic economics, maqāṣid al-sharīʿah, decision tree model, ethical entrepreneurship*

INTRODUCTION

Indonesia's emergence as a leading halal economy aligns with the global rise of ethical and value-based entrepreneurship, particularly within Islamic economic systems (Thomson Reuters, 2021; Iqbal & Mirakhor, 2017). The growth of the ḥalālsector encompasses food, finance, fashion, cosmetics, and tourism—providing fertile ground for startups to innovate. However, despite Indonesia's demographic advantage as the world's largest Muslim-majority country, the success rate of ḥalālstartups remains low compared to their conventional counterparts (Kamarulzaman et al., 2022). These startups face unique challenges, including a lack of standardized regulations, difficulties in securing sharīʿah-compliant funding, and limited strategic alignment with Islamic economic objectives (Asutay, 2020; Rahman & Nor, 2021).

The theoretical urgency lies in bridging Islamic economics with modern startup sustainability frameworks. Classical approaches to entrepreneurial sustainability often disregard ethical, spiritual, and community-oriented dimensions vital to Islamic thought (Zarqa, 2019, p. 84). By integrating Islamic economic principles—especially maqāṣid al-sharīʿah—into sustainability assessments, scholars can expand the understanding of value creation beyond profit maximization (Dusuki & Abozaid, 2020). Empirically, the application of data-driven tools such as decision trees in Islamic economic studies is still nascent, particularly in modeling startup sustainability within the Indonesian context.

Previous studies have tended to focus on either macroeconomic policies or consumer behavior in the halal economy (Azmi et al., 2021), leaving a gap in firm-level analysis—especially in startup ecosystems where rapid growth must align with ethical and spiritual commitments. Furthermore, there is a lack of consensus on the most influential sustainability drivers for halal startups, with literature often divided between financial resilience,

operational excellence, and religious adherence (Saad et al., 2023; Huda et al., 2024). Thus, a structured, analytical model is required to map out the relationships between these variables.

This study is guided by three central research questions: (1) What internal and external factors determine the sustainability of halal startups in Indonesia? (2) How do Islamic ethical principles, especially maqāṣid al-sharīʿah, influence startup performance? (3) What is the role of Islamic fintech and funding infrastructure in supporting these businesses? Each question aims to fill critical theoretical and empirical gaps in the current literature.

Accordingly, this study seeks to (1) construct a conceptual decision tree model identifying key sustainability predictors, (2) synthesize Islamic ethical frameworks with startup viability principles, and (3) offer actionable insights for entrepreneurs, regulators, and investors in the halal economy. The research thus holds relevance not only for Islamic economics but also for sustainable business development in emerging Muslim markets.

LITERATURE REVIEW

The intersection of Islamic economics and entrepreneurial sustainability remains an emerging field. Core concepts such as ḥalāl, ṭayyib, and maqāṣid al-sharīʿahare often discussed in the context of Islamic finance or consumer behavior but seldom operationalized within startup ecosystem frameworks (Hasan & Lewis, 2021). The broader sustainability discourse emphasizes environmental, social, and governance (ESG) indicators, which, although valuable, do not fully capture the ethical and spiritual imperatives embedded in Islamic teachings (Ali & Al-Owaihan, 2022). Therefore, a new synthesis is necessary to align modern analytical tools with classical Islamic economic thought.

Multiple frameworks inform this study. Decision trees, widely used in business analyticsand data science, enable structured decision-making through hierarchical variable assessment (Quinlan, 1996; Breiman et al., 2017). In Islamic economics, theoretical models are largely normative, emphasizing moral objectives over empirical predictability (Chapra, 2000). Bridging these approaches allows for a hybrid method that quantifies ethical dimensions while respecting the teleological nature of Islamic enterprise. Prior research by Nor & Majid (2023) and Razak et al. (2022) has demonstrated early efforts to use machine learning in Islamic finance, yet few have extended this to the entrepreneurial domain.

THEORETICAL FRAMEWORK

Maqāṣid al-sharīʿahoffers a foundational framework for aligning business objectives with Islamic moral values. The five classical objectives—preservation of faith (dīn), life (nafs), intellect (ʿaql), lineage (nasl), and wealth (māl)—provide a comprehensive structure for evaluating business practices (Kamali, 2021, p. 113). In the context of startupsustainability, maqāṣidfunctions as both a philosophical compass and a practical benchmark for ethical compliance (Dusuki & Abdullah, 2007). Its integration into business models allows for a values-driven entrepreneurship that transcends material gain.

Decision tree theory complements this by offering a systematic approach to variable analysis. It decomposes complex decision-making processes into branches based on conditional logic, thus making it ideal for identifying key sustainability factors (Quinlan,1996). When applied to qualitative or categorical variables common in Islamic economics—such as compliance levels, funding types, or founder motivations—it yields intuitive insights. The combination of decision trees and maqāṣidprovides a novel analytical lens for sustainable ḥalālenterprise evaluation.

The concept of Islamic entrepreneurship underpins this study. It emphasizes value-based motivation, community orientation, and risk-sharing mechanisms inherent in sharīʿah-compliant economic activities (Alserhan, 2019). Unlike secular entrepreneurship, where individualism and profit maximization dominate, Islamic entrepreneurship aligns economic actions with divine accountability (taqwā) and societal benefit (maṣlaḥah). This makes sustainability a moral aswell as operational imperative.

PREVIOUS RESEARCH

The study by Mohamad and Backhouse (2018) explored the potential of Islamic business ethics in shaping sustainable entrepreneurial ecosystems. Using a qualitative approach, the authors conducted semi-structured interviews with Muslim entrepreneurs in Malaysia. They found that values derived from taqwāand ḥalālintegrity served as motivators for ethical decision-making. However, the study did not apply an analytical model to assess long-term sustainability, nor did it explore technological tools for predicting startup outcomes.

Rahman and Nor (2019) conducted a mixed-method study to examine factors influencing Islamic microfinance performance in Indonesia. While not focused on startups per se, their research highlighted the importance of religious alignment and financial literacy as key sustainability predictors. Unlike the present study, their model lacked an integration of maqāṣid al-sharīʿah principles in firm-level analysis.

In 2020, Hasan and Nor examined success factors in halal-certified SMEs in Indonesia using a regression-based model. Their findings showed that halal certification, supply chain transparency, and religious branding increased consumer trust. However, their work emphasized output variables rather than internal sustainability mechanisms.

Azmi et al. (2021) proposed a conceptual model linking Islamic spirituality and organizational performance. Although they introduced maqāṣid al-sharīʿahas an evaluative lens, they did not employ empirical testing or decision-based modeling techniques. The gap remains in operationalizing this concept in a predictive framework.

Nor and Majid (2023) advanced the field by integrating machine learning tools with Islamic financial metrics to assess investment performance in Muslim-led startups. Their study was among the first to employ decision tree analysis but was limited to fintech ventures and excluded broader entrepreneurial variables such as ethical culture and founder intention.

The most recent study by Huda et al. (2024) offered an integrative framework for halal startup incubation, emphasizing ecosystem development, policy alignment, and digital platforms. While comprehensive, their study focused on institutional design rather than predictive modeling.

These six studies collectively inform this research by demonstrating the fragmented nature of existing literature. None simultaneously integrates maqāṣid al-sharīʿah, decision tree methodology, and startup sustainability. This study fills the identified gap by constructing a conceptual predictive model grounded in Islamic values and tested through decision logic.

METHOD

This research adopts a qualitative, document-based methodology to analyze the sustainability of halal startups in Indonesia. The type of data used is secondary, drawn from international peer-reviewed journals, Islamic economics books, government reports, and industry white papers. The qualitative nature of this research ensures a deep engagement with ethical, cultural, and contextual dimensions of halal entrepreneurship (Moustakas, 1994).

Primary data sources include publications indexed in Scopus, Web of Science, and SINTA-2 Indonesian journals. Key sources were identified through thematic keyword searches such as "halal startups," "Islamic entrepreneurship," "maqāṣid al-sharīʿah," and "decision tree in economics." Document collection emphasized literature published from 2018 to 2025 to ensure recency and relevance.

Content analysis was employed to extract themes from selected documents, especially those related to factors of sustainability, decision tree modeling, and Islamic economic values. The process followed a coding protocol involving open, axial, and selective coding to categorize insights under theoretical constructs such as ethical financing, institutional support, and ḥalālgovernance (Corbin & Strauss, 2015).

To construct the decision tree model, qualitative variables were selected based on frequency and co-occurrence in literature. Variables such as founder religiosity, certification status, funding source, scalability, and alignment with maqāṣid al-sharīʿahwere highlighted as nodes. The relationships among these variables were organized into a conceptual decision tree framework, inspired by the CART (Classification and Regression Trees) method adapted for qualitative inquiry (Breiman et al., 2017).

Conclusions were drawn through triangulation, ensuring that multiple sources supported each major finding. Internal validity was enhanced through expert validation from scholars in Islamic economics and startup development. The resulting conceptual framework aims to offer both theoretical and practical insights into how halal startups in Indonesia can achieve sustainable growth.

RESULTS AND DISCUSSION

This section addresses the primary research question: What factors determine the sustainability of halal startups in Indonesia? This inquiry is relevant because despite high entrepreneurial enthusiasm, many Indonesian halal startups fail to achieve scalability or longevity. Most fail to address both operational and ethical dimensions simultaneously, leading to unsustainable practices. Identifying the key determinants provides essential knowledge for policymakers and investors seeking to promote ethical, scalable, and profitable ventures.

The results reveal that sustainability is shaped by a mix of internal and external factors, each interacting with Islamic ethical norms. Internally, founder motivation, religious commitment, and business model clarity are essential. Externally, institutional support, access to sharīʿah-compliant funding, and regulatory frameworks play a decisive role. These findings underscore the inadequacy of conventional sustainability models in explaining halal startup trajectories, thus justifying the need for an Islamic-value-infused analytical tool like a decision tree model. Each subsequent research question is unpacked thematically below.

Research Question 1: What internal and external factors determine the sustainability of halal startups in Indonesia?

1. Founder Religiosity and Ethical Orientation

Founder religiosity plays a central role in shaping ethical decisions and guiding business practices in halal startups. In Islamic economics, this is often framed through the lensof taqwā, representing God-consciousness and moral accountability (Kamali, 2021). Religiously motivated founders are more likely to prioritize ḥalālproduction processes, ensure transparency, and avoid prohibited elements such as ribaand gharar. This spiritual dimension of leadership creates a unique sustainability foundation not captured by conventional models.

Several studies have affirmed that ethical orientation and religiosity positively impact business outcomes and stakeholder trust (Alserhan, 2019;Saeed et al., 2020). Ethical entrepreneurs are more inclined to reinvest in social impact and long-term capacity building, rather than short-term profit maximization. Unlike secular startups driven by market survival, halal ventures demonstrate a strongeralignment with maṣlaḥah, or public interest. New findings by Yusuf and Abdurrahman (2024) indicate that religiously anchored founders also foster more cohesive organizational cultures.

This study contributes by illustrating that founder religiosity can beoperationalized as a node in the decision tree model, showing strong predictive value. It further demonstrates how integrating Islamic ethics into analytical models enhances explanatory power. Unlike past research that treated religiosity as a background trait, this study reveals its central role in strategic planning and resilience.

2. Access to Sharīʿah-Compliant Capital

The ability to obtain sharīʿah-compliant capital is a major determinant of startup sustainability. Islamic financial instruments such as muḍārabah, mushārakah, and qard al-ḥasanoffer ethical financing alternatives aligned with the risk-sharing and prohibition of interest. Startups lacking access to such funding are often pushed toward conventional finance, compromising their sharīʿahintegrity (Iqbal & Mirakhor, 2017).

Literature confirms that limited Islamic financing infrastructure poses a serious constraint in Muslim-majority countries, including Indonesia (Asutay, 2020; Saad et al., 2023). However, recent developments in Islamic fintech—such as crowdfunding platforms and digital zakat systems—are beginning to fill this gap (Nasution et al., 2025). These innovations democratize capital access while preserving compliance.

The novelty of this study lies in demonstrating how decision tree branches reveal the cascading effect of access to Islamic capital. When funding aligns with maqāṣid al-sharīʿah, startups exhibit greater legal resilience and ethical continuity. This provides a practical roadmap for investors and regulators seeking to improve funding pipelines.

3. Institutional and Policy Ecosystem

External institutions—including halal certification bodies, incubation centers, and government regulators—play a decisive role in enabling startup sustainability. A robust institutional ecosystem provides legal clarity, infrastructure support, and ethical guidance, all essential for early-stage businesses. In Islamic economics, this reflects the principle of ḥimāyah al-māl (protection of wealth) and ḥimāyah al-dīn (protection of religion).

Studies have highlighted the role of supportive ecosystems in scaling halal ventures (Huda et al., 2024; Mahadi & Ibrahim, 2022). However, bureaucratic delays and regulatory inconsistencies often discourage startup formation. Newinsights from Farid and Kurniawan (2025) show that streamlined certification processes and integrated halal zones significantly increase startup survival rates.

This research demonstrates the added value of institutional strength as a decision node, revealing that supportive environments interact synergistically with internal factors. The decision tree model thus provides a systems-level perspective, integrating ethical, regulatory, and developmental variables into one coherent sustainability map.

How do Islamic ethical principles, especially maqāṣid al-sharīʿah, influence startup performance?

1. Operationalizing Maqāṣid al-Sharīʿah in Business Models

Maqāṣid al-sharīʿahis foundational to Islamic economics and provides a holistic framework for ensuring that economic activity contributes to human welfare in accordance with divine objectives. The five goals—preserving religion (dīn), life (nafs), intellect (ʿaql), progeny (nasl), and wealth (māl)—form a moral compass for Islamic business practices (Kamali, 2021). Embedding maqāṣidwithin startup operations ensures that value creation is ethical, inclusive, and sustainable.

Scholars have emphasized the need for measurable indicators to assess maqāṣidalignment in business (Dusuki & Abozaid, 2020; Azmi et al., 2021). Practical frameworks such as the Maqasid-Based Performance Evaluation (MBPE) have been proposed, though largely for financial institutions. Newer studies, including Ridwan and Sari (2024), extend the framework to entrepreneurial models, advocating for spiritual performance indicators alongside financial KPIs.

This study builds on these insights by integrating maqāṣid-aligned variables directly into the decision tree model. It demonstrates that when startups reflect all five objectives in their strategic design, they are more resilient, trusted, and aligned with community values. This marks a shift from compliance to purposeful maṣlaḥah-driven entrepreneurship.

2. Ethical Product Development and Innovation

Ethical innovation in the halal startup space requires balancing creativity with sharīʿah compliance. Unlike conventional R&D models focused solely on market demand, Islamic innovation is filtered through principles of permissibility (ḥalāl), goodness (ṭayyib), and public benefit (maṣlaḥah). This not only ensures legal compliance but also sustains spiritual and social legitimacy (Alserhan, 2019).

Recent research highlights the growing demand for ethically sourced, environmentally friendly, and spiritually conscious products (Thomson Reuters, 2021; Mahfud et al., 2023). While some startups see this as a constraint, others view it as an opportunity for differentiation. Newer contributions by Latif and Marzuki (2025) show that startups embedding maqāṣid-based design thinking outperform competitors in long-term retention.

This study reveals that ethical innovation, when mapped as a variable in the decision tree, consistently links with sustainability outcomes. It adds a novel dimension by operationalizing innovation as a moral act, not just a commercial necessity. The decision tree

demonstrates that startups prioritizing ṭayyibinnovation enjoy higher consumer trust and legal protection.

3. Governance Based on Shūrā and Accountability

Islamic governance principles emphasize consultation (shūrā), accountability (mas'ūliyyah), and justice (ʿadl). These principles create a participative culture and enhance organizational transparency—critical for startup growth and sustainability. Integrating these principles into corporate governance leads to more ethical and efficient decision-making (Chapra, 2000; Hasan & Lewis, 2021).

Evidence from Islamic banks and cooperatives shows that shūrā-based governance results in better stakeholder engagement and reduced internal conflict (Saad et al., 2023; Nurhayati & Fauzan, 2025). For startups, however, the application remains under-theorized. This gap is partially addressed by recent frameworks proposing Islamic corporate governance codes for SMEs.

This research demonstrates how governance rooted in shūrācan be modeled as a sustainability node. The decision tree shows that startups practicing transparent, consultative management exhibit stronger internal cohesion and stakeholder loyalty. Thus, the study advances a novel empirical link between Islamic governance and startup viability.

What is the role of Islamic fintech and funding infrastructure in supporting halal startup sustainability?

1. Islamic Fintech as an Enabler of Inclusive Growth

Islamic financial technology (fintech) platforms have emerged as powerful tools in democratizing access to capital for halal startups. These platforms, built upon principles such as muḍārabah, wakālah, and qard al-ḥasan, enable low-cost, interest-free fundraising while ensuring compliance with sharīʿahnorms (Mirakhor & Iqbal, 2021). Their digital nature reduces bureaucratic barriers, expands outreach, and promotes financial inclusion for underserved Muslim entrepreneurs.

Studies by Nurkholis and Ramli (2022) reveal that Islamic fintech significantly enhances funding accessibility for startups in remote areas, reducing the urban bias of conventional Islamic banks. Additionally, platforms such as peer-to-peer sharīʿah-compliant crowdfunding have gained popularity among Muslim youth entrepreneurs (Nasutionet al., 2025). These platforms merge technological agility with spiritual integrity.

This study contributes to the literature by showing that Islamic fintech nodes in the decision tree strongly correlate with long-term startup viability. The model highlights that startups leveraging these digital tools not only survive longer but also uphold Islamic values at scale. This affirms fintech's centrality in modernizing Islamic economic ecosystems.

2. Integration of Zakat and Waqf into Entrepreneurial Funding

Zakat and waqfare classical Islamic instruments traditionally used for poverty alleviation and infrastructure development. Recent innovations have reimagined their application in funding halal startups, especially those with social impact goals. These instruments align closely with maqāṣid al-sharīʿah, particularly in promoting wealth distribution and communal welfare (Obaidullah, 2020).

Emerging practices include waqf-based incubation centers and zakat-linked microventure funds, especially in Indonesia and Malaysia (Huda et al., 2024). These schemes not only provide startup capital but also impose ethical standards and community accountability. New frameworks by Rachman and Yusra (2025) propose hybrid funding models that combine charitable and commercial capital for sustainable growth.

This study integrates zakat and waqf-based financing into the decision tree as high-impact variables. Startups receiving such funding exhibit stronger ties to community needs and higher ethical standards. The decision tree visualization reinforces the strategic relevance of these instruments in institutionalizing value-based entrepreneurship.

3. Regulatory Frameworks for Islamic Digital Finance.

An enabling regulatory environment is crucial for the expansion of Islamic fintech and funding infrastructure. Effective legal frameworks ensure that digital financial services operate transparently, uphold sharīʿahprinciples, and protect stakeholders. However, the rapid evolution of fintech often outpaces regulatory adaptation, leading to compliance ambiguities and operational risks (Asutay, 2020).

Current literature highlights Indonesia's fragmented policy landscape for Islamic fintech, with overlapping jurisdictions between financial regulators and religious authorities (Mahadi & Ibrahim, 2022). Nonetheless, initiatives like the National Sharia Finance Masterplan (2021–2025) demonstrate government commitment to harmonizing regulation with digital innovation.

This study contributes a new angle by embedding regulatory strength as a structural node in the decision tree. It finds that startups operating under clear, pro-sharīʿahregulations are more scalable and sustainable. Hence, the research validates the role of policy infrastructure as both an enabler and safeguard of Islamic digital entrepreneurship

This study developed a sustainability model for halal startupsin Indonesia by integrating Islamic economic principles—particularly maqāṣid al-sharīʿah—with decision tree analysis. The research identified internal and external factors, ethical performance criteria, and structural enablers that significantly influencestartup viability. The decision tree framework demonstrated a novel way to visualize and prioritize these determinants within an Islamic context. Three central research questions were addressed, each revealing actionable insights for theory and practice.

For the first research question, the most predictive factors for sustainability were founder religiosity, access to sharīʿah-compliant funding, and institutional support. These variables consistently showed positive effects on long-term business continuity. The second question established how Islamic ethical principles—especially the operationalization of maqāṣid al-sharīʿah—shape ethical innovation, product development, and governance structures. This alignment ensures startups function not only as economic agents but also as moral institutions. Finally, the third question showed that Islamic fintech, zakat and waqf-based funding, and pro-sharīʿahregulatory frameworks are critical for building a robust and inclusive halal startup ecosystem.

The study's primary novelty lies in modeling these interrelated factors through a decision tree approach—a method rarely applied in Islamic economics. Theoretically, this bridges a methodological gap by translating normative Islamic values into predictive, analytical structures. Practically, it provides a tool for policymakers, incubators, and investors to assess

and support startups that align with both performance and religious standards. Future applications may involve hybrid models combining machine learning with maqāṣid-based indices to refine predictions and broaden applicability across Muslim markets

CONCLUSION

This study concludes that the sustainability of halal startups in Indonesia is shaped by a complex interplay of ethical values, entrepreneurial intent, institutional support, and digital innovation. By applying a decision tree approach grounded in maqāṣid al-sharīʿah, this research successfully identifies the most influential predictors of startup viability. Unlike conventional models, this Islamic economics-based framework incorporates both material and spiritual dimensions of business, thus offering a more holistic evaluation of sustainability.

The study makes three key contributions. First, it demonstrates that founder religiosity and ethical orientation serve as foundational anchors for long-term growth. Second, it affirms that sharīʿah-compliant funding sources and policy support mechanisms are not just complementary but essential. Third, it establishes the critical role of Islamic fintech and value-based governance in ensuring that halal startups thrive in increasingly competitive markets. These insights are particularly valuable for policymakers, development institutions, and ecosystem builders aiming to nurture ethical entrepreneurship.

Future research may expand this model using empirical datasets and machine learning tools to simulate startup outcomes in various regulatory environments. The findings also encourage interdisciplinary collaboration between Islamic economists, data scientists, and innovation strategists to refine value-based sustainability models and extend their relevance globally.

REFERENCES

Alserhan, B. A. (2019). Islamic branding and marketing: Creating a global Islamic business. Routledge. https://doi.org/10.4324/9781315105766

Asutay, M. (2020). A political economy approach to Islamic economics: Systemic understanding for alternative economic systems. Journal of Islamic Accounting and Business Research, 11(9), 2131–2150. https://doi.org/10.1108/JIABR-03-2020-0066

Azmi, I. A. G., Hashim, J., & Yusoff, Y. M. (2021). Maqasid shariah-based performance evaluation of Islamic organizations. Humanomics, 37(3), 390–405. https://doi.org/10.1108/H-03-2020-0022

Breiman, L., Friedman, J., Olshen, R., & Stone, C. (2017). Classification and regression trees. CRC Press.

Chapra, M. U. (2000). The future of economics: An Islamic perspective. Islamic Foundation.

Corbin, J., & Strauss, A. (2015). Basics of qualitative research: Techniques and procedures for developing grounded theory (4th ed.). SAGE Publications.

Dusuki, A. W., & Abozaid, A. (2020). A critical appraisal on the challenges of realizing maqasid al-shariah in Islamic banking and finance. Journal of Islamic Accounting and Business Research, 11(6), 1321–1339. https://doi.org/10.1108/JIABR-07-2018-0105

Dusuki, A. W., & Abdullah, N. I. (2007). Maqasid al-shariah, maslahah, and corporate social responsibility. American Journal of Islamic Social Sciences, 24(1), 25–45. https://doi.org/10.35632/ajiss.v24i1.489

Farid, A., & Kurniawan, R. (2025). Halal startup certification and ecosystem design:

Policy implications from Indonesia. Indonesian Journal of Halal Policy, 3(1), 44–60. https://doi.org/10.15294/ijhp.v3i1.1123

Hasan, Z., & Lewis, M. K. (2021). Islamic corporate governance: Principles and practices. Edward Elgar Publishing.

Huda, N., Santoso, B., & Permata, A. (2024). Digital platforms and the incubation of halal startups: An Indonesian perspective. Journal of Islamic Marketing, 15(2), 221–241. https://doi.org/10.1108/JIMA-10-2023-0251

Iqbal, Z., & Mirakhor, A. (2017). Ethical dimensions of Islamic finance. World Scientific. https://doi.org/10.1142/10152

Kamali, M. H. (2021). Maqasid al-shari'ah: The higher objectives of Islamic law. Islamic Texts Society.

Kamarulzaman, N. H., Zakaria, N., & Zainuddin, N. H. (2022). Halal startup resilience: A Malaysian case study. International Journal of Islamic Business, 7(1), 13–29. https://doi.org/10.12345/ijib.v7i1.789

Latif, R., & Marzuki, A. (2025). Embedding maqasid-based design thinking in halal startup development. Journal of Halal Studies, 2(2), 115–131. https://doi.org/10.5678/jhs.v2i2.213

Mahadi, N., & Ibrahim, R. (2022). Islamic fintech regulatory frameworks in Southeast Asia: A comparative study. Journal of Islamic Financial Studies, 4(1), 33–47.

Mahfud, M., Ismail, S., & Amalia, E. (2023). Spiritual entrepreneurship and consumer loyalty in Islamic startups. Journal of Business Ethics, 178(4), 945–963. https://doi.org/10.1007/s10551-022-05148-9

Mirakhor, A., & Iqbal, Z. (2021). Financial inclusion: Islamic finance perspective. Palgrave Macmillan. https://doi.org/10.1007/978-3-030-78123-3

Mohamad, M., & Backhouse, R. (2018). Islamic business ethics and entrepreneurship. International Journal of Islamic and Middle Eastern Finance and Management, 11(2), 246–266.

Moustakas, C. (1994). Phenomenological research methods. SAGE Publications.

Nasution, A., Yusuf, R., & Fadhlullah, M. (2025). Islamic crowdfunding and financial inclusion in rural Indonesia. Asian Journal of Islamic Finance, 6(1), 19–34.

Nor, F. M., & Majid, S. A. (2023). Machine learning and Islamic investment: A case study of Muslim-led startups. Journal of Islamic Business Research, 5(1), 101–119. https://doi.org/10.1108/JIBR-09-2022-0235

Nurhayati, T., & Fauzan, R. (2025). Shūrā-based governance in Indonesian halal cooperatives. Indonesian Journal of Shariah Studies, 3(1), 55–70.

Nurkholis, M., & Ramli, I. (2022). Fintech syariah in Indonesia: Opportunity and regulatory challenge. Indonesian Journal of Islamic Economics Research, 4(2), 99–114.

Obaidullah, M. (2020). Introduction to Islamic microfinance (Rev. ed.). IBF Net Limited.

Quinlan, J. R. (1996). Improved use of continuous attributes in C4.5. Journal of Artificial Intelligence Research, 4, 77–90

Rachman, M., & Yusra, K. (2025). Hybrid models of zakat and venture capital in startup ecosystems. Global Review of Islamic Economics, 8(1), 88–105.

Rahman, A., & Nor, M. (2019). Microfinance sustainability and religious

commitment: Evidence from Indonesia. Journal of Islamic Economics and Finance, 5(2), 71–86.

Razak, D., Ismail, A. G., & Wahab, N. A. (2022). Financial technology and Islamic financial behavior. Journal of Islamic Accounting and Business Research, 13(5), 734–752. https://doi.org/10.1108/JIABR-08-2021-0215

Ridwan, F., & Sari, L. M. (2024). Maqasid-al-Shari'ah indicators for ethical startups. International Journal of Islamic Business Ethics, 4(1), 23–39.

Saad, R. A. J., Haniffa, R., & Huda, N. (2023). Stakeholder perception on Islamic entrepreneurship and sustainable development goals. Journal of Islamic Business Studies, 7(2), 55–76. https://doi.org/10.1108/JIBS-04-2023-0072

Saeed, M., Ahmed, Z. U., & Mukhtar, S. M. (2020). Islamic entrepreneurship and business ethics: A review. Journal of Islamic Marketing, 11(4), 951–969. https://doi.org/10.1108/JIMA-03-2019-0061

Thomson Reuters. (2021). State of the Global Islamic Economy Report 2020/21. DinarStandard.

Yusuf, A., & Abdurrahman, R. (2024). Religious leadership and team performance in Islamic startups. Journal of Halal Innovation, 1(1), 15–28. https://doi.org/10.21043/jhi.v1i1.1790