



Developing the halal ecosystem in Indonesia through productive waqf: A development strategy from the Indonesian halal industry masterplan 2023-2029

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ABSTRACT

The Indonesian halal industry is faced with significant structural challenges despite the country's status as the world's largest Muslim population and the implementation of the Indonesian Halal Industry Masterplan (MPIHI) 2023-2029. The key challenges include logistical inefficiencies, high investment costs for segregated supply chains, limited access to capital for micro, small, and medium enterprises (MSMEs), and a talent crisis in human resources. Therefore, this study aimed to evaluate the role of productive waqf on improving the halal ecosystem in Indonesia, using a qualitative method with content analysis. The results showed that productive waqf acts as patient capital, offering long-term, low-cost financing and physical infrastructure that commercial banking cannot provide. A Waqf-Based Industrial Clustering model and a Waqf-Blended Finance strategy were proposed to achieve economies of scale and absorb initial business risks, respectively. Furthermore, the study suggests reforming the role of Nazhir as managers from passive asset holders into professional Supply Chain Integrators. By integrating waqf assets into the national halal ecosystem, Indonesia reduced production costs, ensured halal integrity, and accelerated its vision of becoming a global halal production center.

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1 Introduction

The halal industry is among the global economic sectors that have experienced significant growth over the past two decades. This development is driven not only by the increasing global Muslim population but also by a change in consumer preferences for products that guarantee quality, safety and sustainability. The halal concept has expanded beyond the food and beverage sector to comprise cosmetics, pharmaceuticals, financial services, and global branding strategies. The phenomenon is reflected in the value of global Muslim consumer spending, which reached approximately USD 2.3 trillion according to the Global Islamic Economy Report 2023/2024. This reflected a strategic opportunity for Indonesia to strengthen global market competitiveness.

As the country with the largest Muslim population in the world, Indonesia has enormous potential, reinforced by regulations such as Law Number 33 of 2014 concerning Halal Product Assurance. The regulation provides legal certainty through the Halal Product Assurance Agency (BPJPH). However, this substantial market potential has not been fully matched by domestic production capacities. Huda *et al.* (2017) stated that the economic added value and multiplier effect of the national halal industry are suboptimal due to dependence on imports and a weak domestic value chain. In a strategic response, the government, through the National Committee for Sharia Economics and Finance (KNEKS), developed the Indonesian Halal Industry Masterplan (MPIHI) for 2023-2029. This document aims to map the potential and encourage cross-institutional collaboration for more targeted halal ecosystem development. However, the implementation still faces significant structural challenges, particularly in terms of logistical inefficiencies in the supply chain, limited access to capital for MSMEs, and the availability of competent human resources.

The discourse on productive waqf has tended to be different from halal

industry strategies. Darmawati *et al.* (2023) stated that academic studies of the halal industry still focus on certification and regulation, while waqf studies largely address normative aspects and institutional governance issues. However, a productive waqf has the potential to serve as a strategic economic instrument. Sa'adah *et al.* (2025) and Judijanto *et al.* (2025) explained that waqf assets, including land and buildings, as well as cash-based schemes, can function as sustainable financial instruments supporting both upstream and downstream industry activity. However, studies specifically integrating these instruments into solutions addressing supply chain and capital constraints in the halal industry are limited.

The present study aims to address this literature gap by analyzing the role of productive waqf specifically in the three main pillars of the Indonesian Halal Industry Masterplan. These include (1) strengthening the halal supply chain through waqf asset efficiency, (2) supporting inclusive sharia finance to address market failures, and (3) developing human resources through Nazhir professionalism. The integration is expected to provide an alternative model to accelerate Indonesia's vision of becoming a global halal production centre.

2 Literature Review

2.1 Halal Industry Ecosystem

The halal ecosystem is not only about Sharia compliance but also about creating additional economic value. The definition of halal in an industrial context comprises the entire process, from raw material procurement and processing to logistics and distribution. In this ecosystem, the main challenge is fragmented policies and infrastructure that are not yet integrated, leading to high costs and a high risk of contamination in the supply chain. The development of Halal Industrial Zones (KIH) is a physical

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strategy to integrate the process, but it requires significant land and investment costs.

2.2 Empowerment of Productive Waqf

Productive waqf is an asset management paradigm oriented towards creating a sustainable economic surplus. Contrary to consumptive forms, such as building mosques, productive models convert assets, including land or money, into factors of production. Huda *et al.* (2017) emphasized that contribution to the national economy required a transformation in governance from traditional to professional. In an industrial context, a waqf can serve as a provider of low-cost infrastructure through competitive leasing schemes while maintaining the sustainability of the principal assets.

2.3 Methodology

The present study adopted a qualitative method with content analysis as the primary analytical technique. Data were sourced from primary policy documents, specifically the Indonesian Halal Industry Masterplan 2023–2029 and academic literature published between 2018 and 2024. The primary policy documents served as the central unit of analysis because it constitutes the overarching national framework governing halal industry development in Indonesia. The empirical academic literature was sourced from indexed journals (Scopus and SINTA-accredited journals) using keyword searches including "productive waqf," "waqf land management," "halal supply chain," and "waqf integration." Furthermore, the selection followed purposive criteria, namely (1) directly addressing waqf management or halal supply chain governance, (2) focusing on the Indonesian or comparable Muslim-majority country contexts, and (3) providing empirical evidence relevant to policy-practice gaps. A total of 35 documents and articles were initially identified, of which 24 were retained after screening for relevance and methodological rigour.

The analytical process was conducted in four sequential stages. In the first stage, document sampling, the Masterplan was treated as the primary document and analyzed in its entirety, while academic literature was selectively sampled based on thematic relevance to the study questions. In the second stage, a hybrid inductive–deductive coding framework was developed to guide the coding scheme. Deductive codes were derived from the Masterplan's stated policy targets across five thematic pillars, namely halal certification, supply chain infrastructure, human capital, financing mechanisms, and institutional governance. Inductive codes emerged from iterative reading of the empirical literature, capturing recurring micro-level challenges not explicitly addressed in the policy document. The unit of analysis consisted of thematic statements, defined as meaningful propositions within a document that reflected either a policy intention or an empirical result related to waqf or halal supply chain management.

In the third stage, gap identification, discrepancies between macro-level policy targets and micro-level empirical realities were systematically mapped by cross-referencing deductive codes representing policy intentions with inductive codes derived from ground-level results. A gap was operationally defined as a condition where a policy target articulated in the Masterplan lacked corresponding empirical evidence of implementation. It was also defined as where empirical literature documented persistent structural barriers that the Masterplan did not adequately address. In the fourth stage, intercoder reliability was ensured through a self-audit process in which the primary coder re-examined a 20% random sample of coded segments after a two-week interval. Furthermore, a consistency rate above 85% was achieved, which met the threshold for qualitative content analysis reliability. Member checking was further conducted by presenting preliminary results to two subject-matter experts in waqf economics for critical validation. Finally, the identified gaps were synthesized thematically to formulate a solution-oriented integration model proposing how productive waqf instruments, particularly land development, can be strategically embedded within the halal supply chain ecosystem as envisioned by the Masterplan.

3 Results

3.1 Gaps in the Implementation of the 2023-2029 Indonesian Halal Industry Masterplan

This section shows the gap between policy demands and reality. Based on a critical review of the 2023-2029 Indonesian Halal Industry Masterplan (MPIHI), structural disparities exist in three main pillars:

3.1.1 Supply Chain Gaps

Evidence showed that the gap arises between cost and integrity. In the productivity pillar, industry success depends on linear integration from upstream to downstream. However, field results showed a complex trade-off between logistics costs and halal integrity issues. Husna *et al.* (2024) underscored that the biggest challenges in halal logistics were high operational costs and the risk of contamination originating from the still-mixed logistics infrastructure for halal and non-halal products.

The results were reinforced by Kurniawati *et al.* (2024), who used a Mixed-Integer Linear Programming (MILP) model. Kurniawati confirmed that creating a completely segregated distribution channel requires a very

expensive investment. It leads to route inefficiencies that are beyond the reach of MSMEs, hence, achieving traceability targets is difficult. Furthermore, Sujono (2024) reports that limited transparency due to delays in technology adoption hampers production transparency, making it difficult for local products to compete with imports.

3.1.2 Financial Inclusion Gap

The financial pillar faces significant obstacles, such as market failure. Lin *et al.* (2022) explained the MSME Finance Gap phenomenon using a New Structural Economics (NSE) perspective. Commercial banks were reluctant to finance MSMEs because of high transaction costs and information asymmetries. This situation created a financing trap that requires certified capital but lacks the necessary collateral.

Microfinance institutions, such as Bank Waqf Mikro (BWM), face sustainability challenges. Andayani *et al.* (2025) reported that many BWMs struggle to achieve financial sustainability because of low-margin business models and high mentoring costs. This signified that the financial infrastructure remained insufficiently robust.

3.1.3 Human Resource Gap and Talent Crisis

The Masterplan emphasized the importance of human resources, but reality showed a talent crisis. Amirudin *et al.* (2025) outlined the unequal distribution of Halal Inspection Institutions (LPH) and auditors, which were heavily concentrated in Java, leading to long certification queues.

Human resource issues occurred on the asset management (Nazhir) side of the business. Huda *et al.* (2017) concluded that the root cause of waqf inefficiency was the low professionalism of the Nazhir. The majority do not work full-time and lack a business background. Consequently, when faced with opportunities to develop productive assets, Nazhir tends to be risk-averse.

3.2 Evaluation of the Supply Side of Waqf

This section evaluated the capacity of national waqf institutions to address the three structural gaps identified above. Although Indonesia had substantial aggregate waqf asset potential, the reality on the ground showed the managerial barriers that hinder the conversion from social to productive economic assets.

3.2.1 Land Asset Inefficiency

Based on the Phenomenon of Idle Assets in Strategic Locations, the main challenge in providing physical infrastructure for the halal supply chain is not a lack of land but rather a systemic inability to convert waqf land assets into the productive counterparts. Many of the lands, even in strategic locations, end up as dead or idle assets due to a lack of working capital for development. Furthermore, this problem is worsened by a deficit in managerial competency. Due to the largely non-professional background, Nazhir's experience tends to create uncertainty in making business decisions. The fear of losing waqf assets leads Nazhir to adopt a risk-averse attitude, thereby neglecting the potential of land development into logistics centres or halal warehouses. Without activating these land assets, land investment costs for the halal industry will remain high, burdening the MSMEs' production costs.

3.2.2 Challenges of Cash Waqf: Crisis of Trust and Literacy

On the financing side, the significant potential of cash waqf is hampered by funding constraints due to low public participation. Hasan *et al.* (2022) empirically showed that accountability and transparency in reporting are the primary determinants of donor trust in waqf institutions. Public reluctance to contribute was not due to limited financial capacity, but doubts regarding the competence of fund managers in allocating the resources productively. This was confirmed by a sentiment analysis conducted by Rusydiana *et al.* (2023) on the Cash Waqf Linked Sukuk (CWLS) innovation. The predominance of neutral public responses (39.7%) showed that the public experienced confusion or information asymmetry regarding the mechanisms and the actual impact of their funds. Without restored trust, mobilizing public funds to finance the halal industry will be challenging.

3.3 Strategic Compatibility Analysis

Despite managerial challenges on the supply side, waqf instruments theoretically possessed unique characteristics that were well-suited to addressing market failures in the halal industry. This section examined compatibility through the lens of economic and management theory.

3.3.1 Supply Chain Compatibility: Waqf as Patient Capital

In the context of supply chain infrastructure, which required significant investment and a long payback period, waqf functioned as patient capital. Hassanain (2016) emphasized that the fundamental characteristic of waqf is the perpetual benefits. This feature rendered the assets highly suitable for financing physical infrastructure such as warehouses, factories, and refrigerators, which naturally require a long time to reach the break-even point. The characteristic differed fundamentally from commercial bank debt, demanding strict short-term instalments and interest payments. The patient nature of Waqf Capital provided MSMEs with breathing room to focus on

improving production quality and expanding markets without the pressure of hampering their monthly liquidity. Furthermore, Hasibuan & Lubis (2024) reported that when low-cost Waqf funds finance infrastructure, the rental cost component can be significantly reduced. The decrease in structural costs directly impacts production costs, making Indonesian halal products more competitive in the global market.

3.3.2 Financial Compatibility

The relevance of waqf in financing MSMEs can be explained using NSE analysis. Lin *et al.* (2022) argued that a country's economic development strategy will succeed only when its financial structure correlates with comparative economic advantage. The problem was the domination of Indonesia's economic structure by informal MSMEs, while the banking structure was designed for established formal corporations. Forcing commercial bank credit schemes on MSMEs often leads to failure due to the mismatched risk profiles. Ascarya *et al.* (2022) offered a social-commercial financial integration model as a bridge solution. This model positions waqf to address banks' weaknesses, in which musharaka or mudaraba were more flexible and tolerant of initial business risks than rigid bank debt contracts. Therefore, waqf filled an institutional void that commercial market mechanisms could effectively address.

3.3.3 Human Resources and Institutional Compatibility

To address the managerial competency gap experienced by traditional Nazhir, Rachman *et al.* (2025) suggest a strategy to reposition Islamic banks as professional Nazhir. The banks established risk management infrastructure, technology, and reporting disciplines. By handing over waqf management to professional banking entities or corporations, asset management capacity was drastically improved compared with individual management. This synergy enabled waqf assets to be managed according to the modern business standards demanded by the global halal industry market.

4 Discussion

Based on the gaps observed in the result section and the theoretical basis for compatibility, this section formulated a comprehensive productive waqf integration strategy in three main areas.

4.1 Strengthening the Halal Supply Chain: Logistics Efficiency Based on Waqf Clustering

To address the challenges of logistics cost inefficiency and contamination risks (Result 3.1.1), this study proposed a Waqf-Based Industrial Clustering model. This strategy works through the following two main mechanisms:

4.1.1 Cost Leadership Strategy

Through Asset Agglomeration, the problem of high production costs for MSMEs can be addressed by implementing a Cost Leadership strategy that utilizes waqf land as an industrial agglomeration site. According to Hassan *et al.* (2021), the inefficiency of waqf management currently occurs due to the partial dispersion of assets. Therefore, consolidating idle Waqf land into a centralized industrial area is necessary to achieve economies of scale. Infrastructure development on this land can be funded through the crowdfunding-waqf model (Mohd Thas Thaker & Allah Pitchay 2018), which allows for the pooling of public capital to build shared facilities. The economic impact of this model is evident in a study by Hasibuan & Lubis (2024). The report stated that using waqf funds to finance physical infrastructure can eliminate the land rental cost component that usually burdens tenants. Since the principal waqf capital does not demand high interest rates, as commercial investors, area managers set service rates below market prices, providing financial flexibility for MSMEs to obtain certification.

4.1.2 Dedicated Hub Solution for Halal Logistics

Waqf clustering addresses the dilemma of the MILP model proposed by Kurniawati *et al.* (2024). The results showed that dedicated distribution channels offer the highest protection against contamination, although they require substantial investment costs. The Waqf Clustering Model solves this problem by creating a centralized logistics hub. Within the waqf area, the warehouse infrastructure and fleet become naturally dedicated because all tenants are halal industries. The high investment costs in Kurniawati's model are subsidized by assets, thereby achieving an optimum balance between low costs and halal integrity. Based on observation, area management adopts the cooperative approach of Ramli *et al.* (2014). Nazhir acts as an area manager who implements a centralized audit and waste management system. The collective approach drastically reduces compliance costs per business unit compared to the scenario where each factory manages its own halal standards.

4.2 Inclusive Islamic Financial Support: Blended Finance Scheme

To address the market failures and financing gaps described in the results section (3.1.2), this study formulated a Waqf-Blended Finance strategy, which combined social and commercial funds through the following roles:

4.2.1 Waqf as Risk Absorbing Capital

Adopting the framework of Hassan *et al.* (2023), cash waqf funds are positioned as the primary risk-absorbing capital. In the context of halal industry development, the funds serve as initial equity for strategic but high-risk projects such as halal technology startup incubation or agricultural seed study. During the pilot phase, the losses incurred by the project are absorbed under the syirkah agreement, thereby preventing disruption to the managing partner's cash flow. This derisking mechanism transforms unbankable projects into bankable ones, enabling safer access to commercial financing from Islamic banks during the expansion phase.

4.2.2 Cross-subsidization of Infrastructure through CWLS

As a tactical instrument, the CWLS model is recommended for national adoption as part of the Halal Infrastructure Series. The validity of this strategy is supported by Mubarak *et al.* (2024), where reports show that the CWLS has a significant multiplier effect when returns are directed to the productive sector. Under this mechanism, the principal waqf funds are invested in State Sukuk, while the coupon returns are retained and redistributed to subsidize operational costs of halal infrastructure, including expenses such as electricity for cold storage facilities. This circular model creates financial independence, enabling assets to continue growing while providing perpetual subsidies to the halal industry ecosystem without permanently burdening the state's budget.

4.3 Human Resources Development

To address the talent crisis and competency deficit (Result 3.1.3), the role of Nazhir required complete reform. Rather than functioning only as a passive asset manager, Nazhir needed to evolve into a Supply Chain Integrator.

4.3.1 Supply Chain Consolidation

In the waqf cluster ecosystem, the Nazhir performs the function of consolidating raw material procurement for all tenants. With collective purchasing, the institution can achieve economies of scale and obtain more competitive input prices. This step directly addresses the operational inefficiencies of MSMEs operating independently, as criticized by Amirudin *et al.* (2025). The role transformation requires the Nazhir to metamorphose into a professional or corporate institution through a sequential, two-phased developmental process. It begins with structured individual capacity building comprising waqf jurisprudential literacy, asset management proficiency, financial reporting, and risk management. Competency thresholds were validated through standardized certification frameworks such as those administered by the Indonesian Waqf Board (BWI), before advancing to institutional-level reforms. Only after a strong human capital foundation is established should the Nazhir organization proceed with corporate governance restructuring, including transparent financial management systems, independent supervisory boards, and performance evaluation frameworks. The measures would ensure that the proposed transformation into a Supply Chain Integrator lies on a credible professional foundation rather than existing competency limitations. This correlates with the waqf strategy priorities recommended by Huda *et al.* (2017).

4.3.2 Centralization of Halal Assurance Services

In addition to the business functions, Nazhir facilitates strategic partnerships with Indonesian LPH to provide one-stop certification services within the region. This mechanism aims to address the imbalance in the distribution of halal auditors, which is concentrated in Java. By making waqf clusters service hubs, the certification process becomes faster and more affordable. Nazhir also provides an integrated dashboard system to ensure product traceability, thereby increasing the bargaining power and trust in Indonesian halal products in the global market.

5 Conclusion and Policy Implications

In conclusion, the integration of productive waqf into the Indonesian Halal Industry Masterplan 2023-2029 was not only complementary but a structural necessity to address market inefficiencies that cannot be addressed by the purely commercial sector. This study proved that land waqf assets played a vital role as the basis for low-cost hubs, while cash waqf served as a risk absorber in financing MSMEs. To operationalize this model, the following policy steps were recommended:

- Asset Regulatory Reform was proposed through the issuance of regulations that facilitate the conversion of non-productive waqf assets into productive industrial assets.
- Mandatory SKKNI Nazhir was recommended through the ratification of the Indonesian National Work Competency Standards (SKKNI),

incorporating supply chain management and modern business competencies as a requirement for operational permits.

- c. Fiscal incentives were proposed by providing tax incentives for private companies that collaborate as off-takers or tenants on waqf land to ensure market sustainability.

Conflict of Interest

The authors declare no conflict of interest.

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