



Empowering Sharia-based MSMEs and financial institutions to enhance the halal industry ecosystem

Erny Arianty¹ , Marsono¹, lin Indrawati¹ , & Risnandar² 

¹Program Studi Akuntansi (D3), Politeknik Keuangan Negara STAN, Kota Tangerang Selatan, Indonesia

²Direktorat Jenderal Stabilitas dan Pengembangan Sektor Keuangan, Kementerian Keuangan Republik Indonesia, Kota Adm. Jakarta Pusat, Indonesia

ABSTRAK

Introduction

Indonesia has considerable potential to become a global leader in the halal industry, supported by its large Muslim population, thriving micro, small, and medium enterprises, and expanding Islamic financial institutions. However, the country still struggles to translate this potential into competitive advantage. Challenges persist in halal product certification, Sharia-compliant financing, regulatory alignment, and digital integration.

Objectives

This study aims to identify key strategies for strengthening the halal industry ecosystem by optimizing the roles of micro, small, and medium enterprises and Islamic financial institutions. It seeks to analyze the most urgent problems and prioritize strategic interventions to support national competitiveness in the global halal market.

Method

A qualitative approach combining thematic analysis and the Analytical Hierarchy Process was used. Data were collected through in-depth interviews with representatives from micro, small, and medium enterprises, Islamic financial service institutions, government agencies, and academics. Thematic analysis identified core challenges and potential strategies, which were then ranked using the Analytical Hierarchy Process to determine their relative importance.

Results

The findings reveal that the most pressing challenges include complex halal certification processes, limited awareness of international halal standards among business actors, inadequate digital readiness, and regulatory barriers that hinder Islamic financing. The most important

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Contact: Erny Arianty ✉ ernyarianty@pknstan.ac.id

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strategy identified was simplifying the halal certification process, followed closely by streamlining financing procedures in Islamic financial institutions. Regulatory support emerged as the most critical factor for strengthening the halal industry ecosystem, while strategies related to human resource development and financial access also played significant roles.

Implications

The results offer practical recommendations for policymakers, particularly in improving regulatory frameworks and enhancing financial inclusion for halal-oriented micro, small, and medium enterprises. For financial institutions, the study highlights the need for inclusive, accessible, and digitally integrated Sharia financing schemes to reach underserved business actors.

Originality/Novelty

This study presents a novel integration of qualitative insight and hierarchical decision modeling to evaluate the ecosystem of the halal industry in Indonesia. By prioritizing strategic issues and solutions, the research provides a structured roadmap for aligning micro, small, and medium enterprises with Islamic financial institutions under national development goals.

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INTRODUCTION

The global halal industry is expected to continue its growth trajectory, driven by increasing interest from various countries in developing halal-based sectors. This growth is supported by rising awareness and demand among the global Muslim population for products and services that comply with Islamic law (Abbas et al., 2025; Akbar et al., 2023; Bux et al., 2022; Masood et al., 2025; Masood & Lee, 2024). Interest in the halal industry is not limited to Muslim-majority countries; even non-Muslim-majority nations have shown strong concern for halal integrity throughout the entire supply chain (Handayani et al., 2021; Islam, 2025; Rejeb et al., 2021; Sobana, 2015).

One indicator of this growth is the increasing expenditure of the global Muslim community on halal products and services. Global spending rose from USD 2,02 trillion in 2019 to USD 2,3 trillion in 2020. Although there was a slight decline in 2021 due to the COVID-19 pandemic and related mobility restrictions, spending remained relatively stable at around USD 2 trillion. Projections suggest that global halal spending will increase to USD 2.4 trillion in 2024 and USD 2,8 trillion in 2025, with a cumulative annual growth rate (CAGR) of 7.5% over four years (Putra et al., 2023; N. H. Putri & Peristiwo, 2024).

The *State of the Global Islamic Economy Report* notes that 81 countries are experiencing significant growth in their Islamic economic ecosystems. Among them,

Malaysia, Saudi Arabia, the UAE, and Indonesia rank in the top four. Indonesia's high ranking reflects a strong Shariah economic ecosystem supported by its majority-Muslim population. This positions the country as a potential leader in developing a robust domestic halal industry (Nasution, 2020). The ecosystem in Indonesia continues to grow through the presence of micro, small, and medium enterprises (MSMEs) as halal product producers, expanding Islamic finance institutions, regulatory support, and technological innovation. These components cover not only halal consumption but also the entire halal production and service supply chain (Marnita, 2024; Melati & Amirudin, 2024; Yuanitasari et al., 2024). Recognizing this potential, the Indonesian government—together with professional and Islamic organizations—has launched a 2019–2024 Shariah Economic Master Plan to strategically support the industry's development.

Given the above context, Indonesia has substantial potential to emerge as a global hub for the halal industry. This potential stems not only from its natural advantages—such as a Muslim-majority population and a growing MSME and Islamic finance sector—but also from its capacity to develop competitive strategies. According to the market-based view (Azeem et al., 2021), gaining a competitive advantage requires more than just resource endowments. It also involves responding strategically to external challenges such as competition, consumer preferences, and substitute products.

MSMEs and the Islamic finance industry play pivotal roles in strengthening Indonesia's halal industry ecosystem. However, Indonesia has yet to realize its full competitive potential. For instance, while the country ranks among the top five in the Shariah economy index, it is not yet in the top 10 global halal food manufacturers (Mubarok & Imam, 2020). This gap is largely due to the limited supply of raw materials that meet halal standards—currently only around 37% of total demand—resulting in low production capacity for national halal commodities, despite high domestic consumption. Thus, Indonesia is still predominantly a consumer rather than a producer in the global halal economy. In addition to the food sector, Indonesia also lags behind in other halal lifestyle sectors (Nasution, 2020).

To address the supply-side gap, it is crucial to optimize the role of MSMEs. These enterprises must be encouraged to scale up and become more competitive. Key indicators for this transformation include technological readiness, sufficient capital, skilled human resources, and access to high-quality, affordable, and halal-certified materials. Many MSMEs still lag in adopting technology due to a lack of digital literacy and limited technical capacity among both managers and workers. Furthermore, there is a resistance to change and a lack of awareness about the benefits of digitalization, which hinders adoption (Astuti & Nasution, 2014; Maier et al., 2015). Human factors remain critical in the successful implementation of technology, requiring both technical and managerial capabilities (Ostmeier & Strobel, 2022).

All of these improvements require sufficient capital. One key source of financing is Islamic financial services. The integration of MSMEs with Islamic financial institutions is crucial in expanding access to long-term funding. This relationship is further supported by the Indonesian government through the enactment of Law No. 4 of 2023 on the



Development and Strengthening of the Financial Sector (UUP2SK). This law emphasizes financial sector reform, including improving access to financial services, expanding long-term financing sources, enhancing competitiveness and efficiency, developing financial instruments, strengthening risk mitigation, and protecting investors and consumers (Anggraeni & Pratomo, 2023; Baihaqqy, 2023; Purwanti et al., 2025). The integration of MSMEs and Islamic financial institutions—key components of the halal industry ecosystem—is a strategic factor that could enhance Indonesia's position as a global halal hub.

Given these challenges, this study aims to explore strategies to strengthen the halal industry ecosystem toward achieving competitive advantage by optimizing the role of MSMEs and Islamic financial service institutions. Specifically, it seeks to identify the key obstacles faced by these actors—particularly MSMEs, Islamic financial institutions, and regulatory frameworks—and propose strategies to overcome them. It also aims to assess which strategies hold the highest level of importance in building a competitive halal industry ecosystem.

Building on prior research that has explored competitive advantage via halal assurance systems and employee performance (Fauzi & Mujaddid, 2022), halal certification (Amalia & Andni, 2023; Fathoni et al., 2024), challenges and opportunities in the industry (Hasyim, 2023; Suhaimi & Marliyah, 2023), halal industry policies (Nasution, 2020), and MSME digitalization (Asiyah et al., 2023; Sahudin et al., 2023; Wijaya et al., 2023), this study offers a distinctive contribution. It emphasizes the strategic integration of Sharia-based MSMEs and Islamic financial institutions as a means to reinforce the halal industry ecosystem in alignment with the Financial Sector Development and Strengthening Law (P2SK). Employing a mixed-method approach that combines thematic analysis with the Analytical Hierarchy Process (AHP), this research seeks to provide a comprehensive, empirically grounded framework for advancing the halal industry's structural and institutional sustainability.

LITERATURE REVIEW

Micro, Small, and Medium Enterprises (MSMEs)

MSMEs represent a significant portion of economic activity in Indonesia, with many businesses operated by communities with limited capital (M. F. Rahman & Masad, 2025; Syailendra et al., 2024). Globally, MSMEs play a vital role in fostering economic development—not only in developing economies but also in advanced ones. Their distinct characteristics, such as flexibility, proximity to markets, and capacity for innovation, make them crucial contributors to economic resilience. Indonesia's Law No. 4 of 2023 on the Strengthening and Development of the Financial Sector also emphasizes the strategic role of financial institutions in supporting sustainable economic growth, including the development of MSMEs as part of the national economic framework (Ayunda et al., 2025; Nurpitasari & Pratama, 2025).

However, MSMEs face several persistent challenges. These include limited access to capital, a lack of managerial skills, and inadequate operational capabilities

(Kiswandi et al., 2023; Lubis & Salsabila, 2024; Suci, 2017). Sharia-compliant MSMEs operate based on Islamic principles and values, including fairness, transparency, and the avoidance of prohibited elements (Mardikaningsih et al., 2024; Rukmanda et al., 2025). One essential aspect of these enterprises is halal certification, which serves as a prerequisite for marketing halal-labeled products. Halal certification provides added value by ensuring product quality, freshness, and global market accessibility (Bux et al., 2022; Dashti et al., 2024; Nusran et al., 2023).

Islamic Financial Institutions and P2SK Law

Islamic Financial Institutions (IFIs), especially Islamic banks, operate within a regulatory framework governed by Law No. 21 of 2008, which defines their roles, business models, and operational guidelines in accordance with Sharia principles. These institutions are legally obliged to comply with fatwas issued by certified religious authorities to ensure adherence to Islamic jurisprudence (Fitriyanti et al., 2023; Suhendar et al., 2023; Zaini & Shuib, 2021). Central to the Islamic financial system are principles such as profit-and-loss sharing, mutual cooperation, social equity, and the prohibition of speculative activities (Iqbal et al., 2024; Norchaevna, 2024). Over the years, this sector has expanded in parallel with Indonesia's economic development, evidenced by the steady growth of Islamic banking services and takaful. This institutional evolution reflects the increasing integration of Islamic values into national financial infrastructure.

The enactment of Indonesia's Financial Sector Development and Strengthening Law (UU P2SK) represents a significant regulatory advancement aimed at reinforcing the resilience, inclusivity, and ethical orientation of the national financial sector, particularly in relation to Islamic finance. The law enhances the authority of the Financial Services Authority (OJK) to supervise both conventional and Islamic institutions, ensuring compliance with Islamic financial principles while integrating global standards (Johan & Gunadi, 2023). It promotes sustainability by positioning Islamic finance as a contributor not only to economic growth but also to social development, as evidenced by instruments such as sukuk, Islamic insurance, and mutual funds (Rezeki et al., 2024; Wulandari et al., 2021). Additionally, the law fosters financial inclusion through Islamic mechanisms that aim to reach underserved communities, thereby aligning state policy with the social justice objectives inherent in Islamic finance (Ngaha & Mbenda, 2024).

Beyond formal regulation, UU P2SK addresses operational coherence and institutional integration by outlining clear mandates for Sharia-compliant financial products and their supervision (Tarantang & Astiti, 2023). It supports the expansion of Islamic social finance—including zakat, waqf, and other philanthropic tools—as mechanisms to enhance public welfare (Adinugraha et al., 2023), while acknowledging key challenges such as limited financial literacy and technological transformation (Supriadi, Maghfiroh, & Abadi, 2023; Widityani et al., 2020). Empirical studies also highlight the sector's role in MSME financing and job creation (Benbekhti et al., 2021), reinforcing its relevance in the broader economic agenda. In contrast, this research adopts a broader lens by situating regulatory adaptation within a multi-tiered AHP



framework that integrates policy support, financial access, and MSME empowerment. The study highlights various Sharia-based financial providers—including Islamic microfinance, cooperatives, and venture capital firms—as key agents of inclusive economic development rooted in Islamic financial ethics.

The Halal Industry Ecosystem

The halal industry ecosystem is a dynamic, multidimensional structure encompassing production, certification, distribution, and consumption of halal goods and services. It has evolved into a vital contributor to the economic development of Muslim-majority countries and is increasingly recognized in global markets, particularly in sectors such as food and beverage, cosmetics, pharmaceuticals, and tourism (Aziz et al., 2025; Wong et al., 2023). The halal certification system lies at the heart of this ecosystem, providing legitimacy and consumer trust. However, challenges persist for micro, small, and medium enterprises (MSMEs), particularly in navigating complex certification requirements, managing associated costs, and responding to limited regulatory literacy (Alanazi et al., 2024; Prawiro & Fathudin, 2023). Integrating fatwa-based standards into broader legal structures offers a potential solution for improving halal compliance and expanding market access, especially for small-scale producers.

Beyond compliance, the halal industry has embraced broader value-based imperatives, including sustainability, education, and digital transformation. Recent scholarship highlights the correlation between green practices and financial performance in halal food enterprises, indicating a convergence of Islamic ethical principles and corporate sustainability goals (M. M. Rahman et al., 2024). Concurrently, workforce development through targeted education and vocational training is emphasized in strategic documents such as the Halal Industry Master Plan 2030, which advocates aligning educational outputs with industry needs (Abd. Aziz et al., 2024). Digitalization further transforms the ecosystem through tools like blockchain, which enhance traceability and consumer confidence (Alamsyah et al., 2022). These technological and human capital advancements support the long-term viability and competitiveness of halal enterprises in both domestic and global contexts.

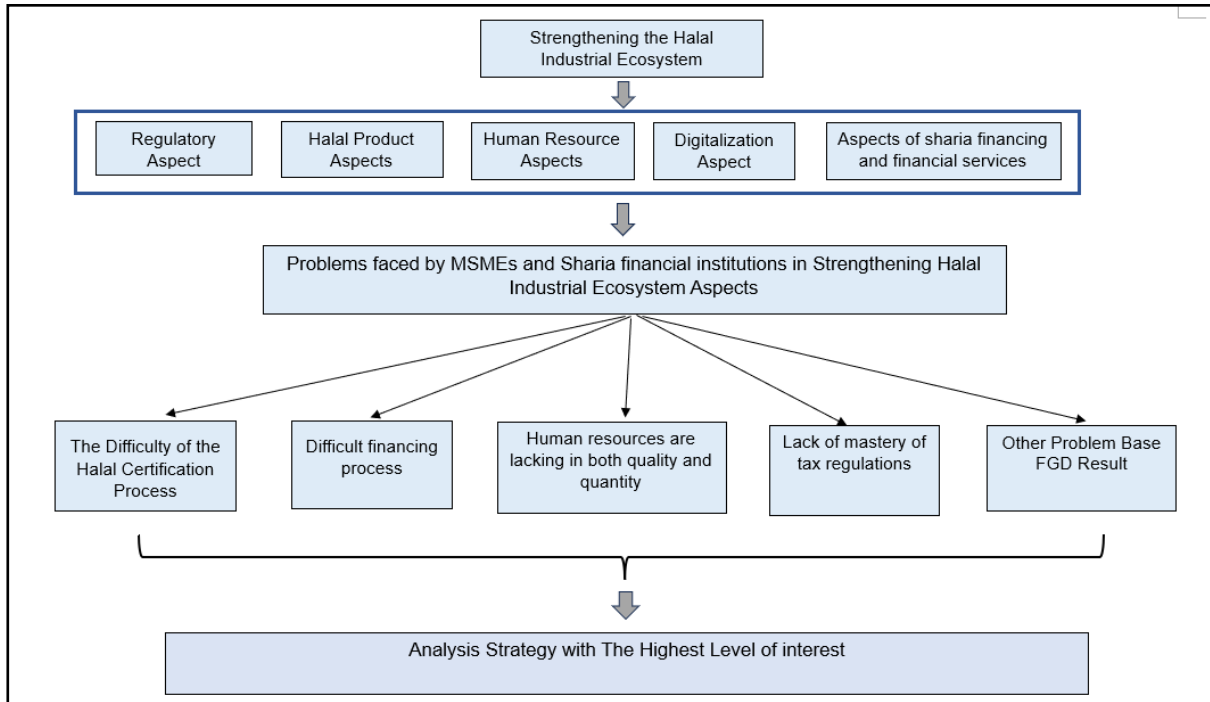
The halal ecosystem is further strengthened by cross-border cooperation and good governance. Regional collaborations, such as ASEAN initiatives to develop digitally enabled halal logistics, aim to foster efficient supply chains and greater market integration (Hidayat & Musari, 2021). At the governance level, effective regulatory frameworks are required to balance innovation with compliance, ensuring that the halal industry remains anchored in Islamic principles while remaining responsive to modern consumer needs (Zain & Zakaria, 2022). However, research still tends to examine individual aspects—such as logistics, sustainability, or certification—rather than the systemic interplay of stakeholders within the ecosystem.

These studies focus emphasizes competitive advantage within the halal industry ecosystem, integrating not only MSMEs but also Islamic financial institutions using a hybrid approach (qualitative and AHP). These studies offer valuable lessons but do not apply decision-making models to prioritize ecosystem factors. The present study

integrates these comparative insights and applies AHP to localize strategy within Indonesia's context. The framework used in this study is based on existing problems and can be presented in Figure 1.

Figure 1

Research Framework



Source: Authors' analysis.

METHOD

The method used in this study is a qualitative method with a thematic analysis approach and the Analytical Hierarchy Process (AHP). Thematic analysis is a data analysis method aimed at identifying meaningful recurring themes or patterns in qualitative data (Braun & Clarke, 2006). Themes refer to the main ideas or meanings that emerge repeatedly and are considered important in answering the research questions.

The thematic approach in this study was employed to explore the barriers to strengthening the halal industry ecosystem through the roles of MSMEs and Islamic banking. Furthermore, thematic analysis was also used to identify strategies needed to overcome those barriers. The AHP approach was then used to analyze the criteria and sub-criteria that have the highest level of importance in achieving the research objectives.

The connection between thematic analysis and AHP in this study lies in the integration of findings: the identified problems and strategies resulting from the thematic approach serve as input for the AHP, which is used to determine the priority levels of each barrier and strategy. The combined use of thematic analysis followed by

AHP has been adopted by previous studies on halal industry ([Sarasi et al., 2025](#); [Utama et al., 2025](#); [Utama & Bahtiar, 2025](#)). In these studies, thematic analysis was conducted to determine the themes used in formulating the criteria, sub-criteria, and alternative options, while AHP was applied to identify which of these hold the highest importance in achieving the objectives.

Data collection in this study followed several stages aligned with the respective approaches. For the thematic approach, data were collected through interviews and secondary sources such as legislation, relevant literature on the halal industry, and the Sharia Economic Master Plan. Informants included MSME actors, MSME cluster coordinators, practitioners from Islamic banks, academics, representatives from KNEKS, and government officials. This diversity aimed to fulfill triangulation by including perspectives from policy makers, practitioners, and MSME players.

This study applied methodological triangulation, by combining thematic and AHP approaches, and source triangulation, by comparing data from various informants with different backgrounds to obtain a more holistic understanding of the challenges and needs in strengthening the halal industry ecosystem (Patton, 1999). The informant data are presented in Table 1.

Table 1

Informant Data of The Study

No.	Informant	Amount	Informant Code
1	Government: Ministry of Finance KNEKS	2	Inf.1 Inf 2
2.	Practitioner from the Islamic Financial Services Institution BMT Beringharjo Sharia Fintech	2	Inf.3 Inf.4
3	MSMEs MSMEs Coordinator MSMEs Actors	2 3	Inf.5 and Inf 6 Inf. 7, Inf. 8, and Inf. 9
4	Academics	1	Inf. 10

Source: Primary data.

The informant from the Ministry of Finance is a representative from PKN STAN, appointed by the Minister of Finance to support the advancement of MSMEs (“UMKM Naik Kelas”) by coordinating MSME development programs across Indonesia. This informant has an extensive network of MSMEs and broad experience in the field of MSME business development in the country. The informant from KNEKS serves as the Director of Sharia Ecosystem Infrastructure and has substantial experience in collaborating with MSMEs. He also acts as the coordinator for the formulation of the Sharia Economic Master Plan and has expertise in identifying appropriate strategies to enhance the MSME sector.

The informant from Islamic financial institutions is a practitioner with in-depth knowledge of financing systems designed to serve as capital sources for MSMEs in their

business expansion efforts. MSME actors include informants who are business owners within the MSME category, as well as regional MSME coordinators from provinces in Java (excluding West Java) and the coordinator for West Java. The selection of informants from among MSME actors was based on their practical experience and direct involvement with the challenges encountered on the ground.

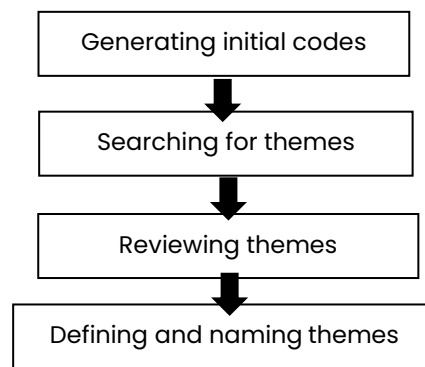
The interview material in general includes:

1. The role of MSMEs and their readiness in strengthening the halal industry in Indonesia as well as the obstacles experienced and the solutions implemented. This includes the readiness of MSMEs related to technology and preparation towards halal certification for the products they produce.
2. The role of Islamic banks in supporting the halal industry, namely the extent to which Islamic banks assist MSMEs in financing, the readiness of Islamic banks to expand the provision of financing and capital assistance, and the readiness of Islamic banks to innovate in the halal sector. Technology that is effectively used by customers and the community.
3. What are the benefits resulting from the use of technological devices in the business processes of MSMEs and other entities/institutions?
4. What is the role of the government and Islamic mass organizations in supporting the creation of a halal industrial ecosystem in Indonesia to achieve a competitive advantage?

The interview recordings were processed through several stages. The first stage involved converting the recorded interviews into complete textual form, a process known as transcription. The second stage was data verification, which consisted of rechecking the transcriptions by listening to the recordings again and comparing them with the transcribed text to ensure accuracy. The final stage was data organization, in which the data were grouped based on the informants, themes, and interview questions. This process was carried out manually using Microsoft Excel. The analysis of the processed data followed several steps, as illustrated in Figure 2, based on the framework by Braun & Clarke (2006).

Figure 2

Thematic Analysis Steps



Source: Braun & Clarke (2006).

The explanation of each stage is as follows:

1. **Generating Initial Codes.** At this stage, the interview transcripts were processed and categorized based on frequently emerging themes as reflected in the available data, including internal factors.
2. **Searching for Themes.** In this stage, data were organized by grouping the identified codes into overarching themes. This grouping was conducted by directly classifying the obstacles, the solutions that have been implemented, and the strategies according to the components of the halal industry ecosystem. The theme of obstacles was specifically focused on issues that may affect the achievement of competitive advantage, including both internal and external factors.
3. **Reviewing Themes.** At this stage, the researcher reviewed and refined the themes to ensure they accurately reflected the data and research objectives.
4. **Drawing Conclusions.** The final step involved concluding whether the proposed strategies could effectively address the identified problems.

The Analytical Hierarchy Process (AHP) approach was employed to determine and analyze the level of importance of each problem criterion and strategy in order to strengthen the halal industry ecosystem towards achieving competitive advantage. From several problem criteria and strategies identified by informants and supported by previous studies, the most urgent problem criteria to be resolved and the most important strategies to be implemented were determined.

The data used were primary data obtained through questionnaire assessments distributed to informants listed in Table 1, including representatives from the government (Ministry of Finance and KNEKS), practitioners from Islamic banks, and MSME actors. Each informant provided their assessments (scores) based on the references developed by Saaty (1990), as presented in Table 2.

Table 2

AHP Scale and its Definition

Scale	Definition of "importance"
1	Equal Importance
3	Slightly more importance
5	Materiality more Importance
7	Significantly more Importance
9	Absolutely more important
2, 4, 6, 8	Undecided between two adjacent values

Source: Saaty (1990).

Data processing from results AHP questionnaire using expert choice application and Microsoft excel application. Analysis used for determine a strategy that has level interest highest compared to other strategies. To obtain the level of importance of each strategy, the following steps must first be taken:

1. Constructing the Pairwise Comparison Matrix. The collected data were entered into a pairwise comparison matrix. A separate matrix was created for each informant and for each criterion/sub-criterion (problem identified) and alternative option (strategy).
2. Calculating Priority Weights. Before calculating the priority weights, the matrix was normalized by dividing each element in a column by the total of that respective column. After normalization, the priority weights were calculated using the following formula:

$$W_i = \frac{1}{n} \sum_{j=1}^n \left(\frac{a_{ij}}{\sum_{i=1}^n a_{ij}} \right)$$

Where:

- a_{ij} : the element in row i , column j of the comparison matrix
 - $\sum_{i=1}^n a_{ij}$: the total of column j
 - W_i : the priority weight of the i -th criterion
 - n : the number of criteria
1. Determining the index consistency value. The value of each informant's interest will be determined by the index consistency value, if it gets less than 0,1 then the informant's results are accepted for the next stage (Saati, 1990). However, if the index consistency value is greater than 0,1 then the informant's interest value results will be issued and not continued to the next stage. However, considering that the informant is an expert, the researcher in this case will reconfirm with the informant to get consistent results.
 2. Consistency results index using the formula as following:

CR = Consistency Index (CI)

Random Index (RI)

$$CI = (A_{max} - n) / (n-1)$$

It should be noted that in the data processing process to obtain the level of importance and consistency value, researchers will use Saaty's (1990) reference in entering the RI value determination value into the data processing application which can be seen in Table 3.

Table 3

Random Index Values

Size	1	2	3	4	5	6	7	8	9	10
	0.00	0.00	0.52	0.89	1.11	1.25	1.35	1.40	1.45	1.49

Source: Saaty (1990).

After knowing the level of importance and consistency ratio, the next step is to determine the average value of interest from all informants at each level of AHP criteria. The highest result indicates a strategy that has the highest level of importance to be realized immediately.

RESULTS

The research findings are divided into two parts: the results of the thematic analysis and the results of the AHP (Analytical Hierarchy Process) analysis. The findings from the thematic analysis were used as the basis for constructing the AHP hierarchy, which consists of the goal level, criteria level, sub-criteria level, and alternatives level. The discussion of each analytical approach is presented in the following paragraphs.

The Results of Thematic Analysis

The interview recordings, which had been transcribed into verbatim text, were categorized under the main themes that had been predetermined as the basis for the interviews. These main themes include: (1) aspects or factors that can strengthen the halal industry ecosystem; (2) problems encountered in strengthening these aspects; and (3) proposed strategies to overcome the identified problems in order to achieve the overall goal—namely, the reinforcement of the halal industry ecosystem through the optimization of the roles of MSMEs and Islamic financial institutions. The responses of the ten informants regarding the aspects, types of problems, and proposed strategies were further grouped into sub-themes under each main theme, based on the frequency and similarity of the responses, even if they originated from different informants. The explanation of each main theme along with the corresponding sub-themes is presented as follows.

Analysis of Strengthening Factors in the Halal Industry Ecosystem

Based on the findings of previous research, several key factors have been identified that contribute to strengthening the halal industry ecosystem by optimizing the roles of MSMEs and Islamic Financial Services Institutions (IFSIs). These factors include halal product development to meet global market demands, the role of IFSIs, human resource quality, technological advancement, and regulatory support. Among these, the quality of human resources emerges as a particularly critical factor. The competence of human resources within both MSMEs and IFSIs is instrumental in enabling MSMEs to scale up and penetrate the global halal industry market. Indonesia already possesses substantial capacity in these areas. The growth of MSMEs in terms of quantity and the expansion of IFSIs, both in number and asset value since the establishment of Bank Muamalat in 1991 (Indonesia's first Islamic bank), followed by the Islamic insurance industry (Takaful in 1992), underscores the crucial role of human capital in this growth trajectory.

The financing function of IFSIs is also vital in supporting MSME development. The financing mechanisms provided by IFSIs vary in implementation. Some institutions offer 100% cash financing, while others provide a mix of cash and in-kind support. Large

Islamic banks typically offer full cash financing under contracts such as murabaha, mudharabah, and musharakah. Meanwhile, non-bank Islamic financial institutions, such as BPRS and BMTs in Indonesia, often offer financing in both goods and cash. For instance, BMT Beringharjo provides sharia-based financing sourced from ZISWAF funds for eligible MSMEs. According to the Director of BMT Beringharjo:

“BMT provides sharia-compliant financing sourced from ZISWAF for MSMEs that meet specific criteria. MSMEs that have scaled up receive financing from member savings funds. Financing from ZISWAF is generally provided in the form of goods, such as trading carts, cooking utensils, business vehicles, and so on. Some funds are also provided as capital in the form of money, usually ranging from IDR 500,000 to IDR 1,000,000 for purchasing raw materials.”

Other crucial aspects of the ecosystem include technology, halal products, and regulatory frameworks. Indonesia is progressing with digital transformation across all industry sectors. Strengthening digitalization is a core strategy outlined in the Sharia Economic Masterplan 2019–2024, aiming to position Indonesia as a world-class hub for the sharia economy. Digital economic development focuses on enhancing sharia e-commerce and fintech subsectors to support the halal value chain, sharia finance, and MSMEs.

These four strategies form the pillars of the ecosystem supporting the advancement of the sharia economy in Indonesia, particularly by developing real sector goods and services to create a globally leading halal industry. In terms of halal products, the government has implemented policies to strengthen halal regulation through Government Regulation No. 39 of 2021 on the Implementation of Halal Product Assurance. Furthermore, the government requires halal certification as a legal standard for halal products. The target is to have 10 million certified MSMEs by the end of 2024.

This target was emphasized by Informant 4:

“The government has set a target of 10 million certified MSME products by the end of 2024, but current progress has only reached around 1.8 million.”

In addition to the aforementioned aspects, MSMEs must fulfill legal requirements to support the strengthening of the halal industry ecosystem. Legal compliance enables MSMEs to expand their market reach, particularly by engaging with formally recognized entities. Informant 2 stated:

“We provide education to our members about legality and digital systems. With legal registration, such as NIB (mandatory for procurement), they can be verified and meet the requirements to enter the e-catalogue. Many of our MSME members lack knowledge in this area, so we support them to advance and participate in government procurement.”



Analysis of Problems Faced by MSMEs and Islamic Financial Services Institutions in Realizing the Strengthening of Aspects of the Halal Industry Ecosystem

The results of interviews conducted with informants from BMT Beringharjo, Fintech Syariah, the MSMEs Association, the MSMEs actors, KNEKS, and academics, obtained some information related to the problems that occur in aspects of strengthening the halal industry ecosystem. As we know, aspects of strengthening the halal industry ecosystem include aspects of halal products, quality human resources, sharia financing from sharia financial services institutions, regulations, and digitalization. However, in the process of implementing data collection through interviews, information was obtained that in addition to these aspects, there are other aspects, such as the legality of an entity, in this case, MSMEs. When the legality of MSMEs has been obtained, the MSMEs business process is smoother and has the potential for MSMEs to move up a class.

Based on the collected data regarding the issues encountered, the researcher categorized the problems into themes according to their frequency and similarity. These identified themes represent the common challenges faced by MSMEs and Islamic Financial Services Institutions in realizing the strengthening of the halal industry ecosystem, namely as follows

1. Halal product aspects

The problem related to the provision of halal products that occurs in MSMEs is not only that there are still few MSMEs that do not have national halal certification, but most MSMEs also do not understand how to meet the criteria for obtaining international certification to compete in the global halal industry. In addition, many MSMEs do not yet have an understanding of the requirements for ingredients (content) of a product that is accepted in the global market. It often happens that products that will be sent abroad are rejected when checking the ingredients of a product. This incident was conveyed by informant 2:

"Many MSMEs can produce, but when they want to export, they lack knowledge related to exports, for example, materials that are prohibited for use as a mixture of products made, both food products and cosmetic products. Because of this incident, the goods were rejected."

Regarding certification, still few MSMEs have to obtain certification on the product. As stated Informant 3 related to the government's target at the end of June 2024 is the expected amount achievement halal certification of 10.000.000,00 but its realization only reached 1.827.471. Other related issues with halal products are a lack of awareness about halal products and halal certification that are good from party manufacturers and also from consumers. Many MSMEs are offended Because the materials used are already halal, on the other hand, there is still there is a group of underprivileged society aware of product halal. This is conveyed by informant 3.

A product said halal or not only halal from side material the raw materials used, but also includes the production process, the tools used whether mixed or not with the

production process of non-halal products, and also during the packaging and distribution process. Sometimes, still there is a lack of understanding owned by the perpetrator business where the halal concept is only limited to materials standards, ignoring the production, packaging, and distribution processes. Compliance will halal criteria of a product marked with ownership halal certification of products in every MSME

2. Financing aspects of Islamic financial services institutions

Problems related to the sharia financing aspect experienced by MSMEs are the process of applying for sharia financing which is not easy. Information obtained from the informants of this study related to the problems of applying for Sharia financing consists of online loans (pinjol) which are easy to access and disbursement are faster, management of loan money is less efficient because more of it is used for consumption, improper loan management is more used for consumptive shopping, there are still few Islamic financial services institutions that provide loan assistance to MSMEs that still have small capital and only a few that go to villages, people see Sharia financing as expensive, even more expensive than conventional financing. Many people do not yet understand that the principle of Sharia is sharing profits and losses. People are not ready to share losses, Applying for a loan to a Sharia bank, the requirements and process are difficult, the required documents are not yet owned by MSMEs and the need for capital is very urgent, and human resource aspects

The existence of human resources is an important element that has an impact on the success of an entity's business and business. This existence is not only related to the number of human resources but also the quality of its human resources. Many problems occur when MSMEs lack human resources with relevant competencies, for example, a lack of understanding of tax knowledge, understanding of prohibited raw materials, understanding when applying for financing, understanding how to manage entity legality, and others. The impact of these problems disrupts MSME operational activities and has an impact on less than optimally achieving revenue targets. Some examples of problems experienced by MSMEs are, first, MSME tax knowledge is still low so some use consultant services which result in high expenses or burdens so that the company's profit is low. This high expenditure also affects the cash flow of receipts which will disrupt operational activities. Informant 2 conveyed the following problems related to taxes:

"There have been MSMEs that have had tax problems. Sometimes their businesses are big but they do not have knowledge about taxes and of course, do not carry out their obligations because of their ignorance. Some MSMEs misunderstand taxes because of their lack of understanding."

The main problem can from *human* resources, for example, method recruit people or How employees *resign* suddenly. Also started with legality, handling taxes and so on. Understanding of sharia among MSME actors is also still low. MSME friends do not so



understand about sharia. During This they only use conventional. BRI Syariah, not yet There is a direct expansion to us, not yet once.

3. Digitalization Aspects

Ability digitalization and competence-related procurement held government, still low. MSME actors are still focused on business and some MSMEs consider tool technology like application trade not enough effectively used directly. So MSME actors often do double work, first, write it down on paper, and later every Sunday inputted to the application. Mastery technology is still low, and MSME actors are ready to operate, but at the time there is trouble related to tool technology, MSME actors become confused about the end impact of not using again the tool.

4. Regulatory aspects

Related regulations with institution service finance often make rules/procedures that are too difficult, and too often request reports.

Strategy Analysis in Resolving Problems Faced to Realize Strengthening of Aspects of the Halal Industry Ecosystem

Based on the results of previous research, information was obtained on aspects that strengthen the halal industry ecosystem by optimizing the role of MSMEs and Islamic Financial Services Institutions. These aspects include halal product aspects that can meet global market demand, aspects of Islamic financial services institutions, human resource aspects, technology aspects, and regulatory aspects.

Aspect source Power man becomes aspects that have a very important role. Source Power quality human resources owned by MSMEs and service institutions Islamic finance can support the realization of MSMEs moving up a class and entering the global halal industry market. Indonesia already has sufficient capacity in each of these elements, starting from the existence of MSMEs that continue to grow in quantity. The existence of Islamic financial institutions that have experienced growth in terms of both the number and value of assets have also increased since 1991 which was marked by the establishment of Bank Muamalat, the first Islamic bank in Indonesia followed by the Islamic insurance industry, namely Takaful in 1992. Of course, this growth cannot be separated from the role of human resources.

The financing aspect of Islamic financial services institutions also plays a vital role in helping MSMEs grow. The financing provided by Islamic financial services institutions has different technical implementations. Some financial services institutions provide 100% financing in the form of cash, but there are Islamic financial services institutions that provide financing in the form of cash and goods. Financing in the form of 100% cash is usually carried out by large-scale Islamic banks with several contracts used, namely the murobahah, mudhorobah, and musyakarah contracts. Financing in the form of goods and money is usually used by Islamic financial services institutions other than Islamic banks, for example, BPRS and BMT in Indonesia. This is what is practiced by BMT Beringharjo, the Director of BMT Beringharjo said: Strategies that can solve current

problems and future strategies are developed from previous research results and also develop from solutions that have been carried out by MSMEs and Islamic banking. The solutions that have been carried out to solve the problems that occur, some of which have been carried out are as follows:

- a. Providing education to our members regarding legality or digital, certification, and brand legality.
- b. The governor asked hotels to promote and sell MSME products.
- c. Checking, supervising, and verifying MSME businesses is truly real.
- d. Create a business unit in the form of credit but in the form of a business.
- e. Education or providing information to business actors. It is very important because Islamic banking is not widely known by MSMEs, for example, what are the repayment requirements, and the rate of return?
- f. As a partner/collaborating with local government, for example, halal certification, taxes, and so on
- g. Educate stock business actors to understand business, have a product roadmap, what is the target for the next year, and what is the target for the next five years?
- h. Simplify and eliminate cumbersome manual processes.
- i. Facilitating halal certification and conducting outreach to MSMEs regarding awareness of halal products and certification.
- j. The government has allocated funds for halal certification.
- k. Create high product standards (product standardization), therefore KNEKS has a piloting program, in collaboration with the Ministry of Cooperatives.
- l. BMT provides Sharia-based financing with funding sources from ZISWAF for MSMEs that meet certain criteria. MSMEs that have moved up a class receive sharia financing sourced from member savings funds.

Based on the information obtained on how MSMEs and Islamic financial services institutions make decisions as a solution or strategy to solving problems, the future strategy to overcome these problems is as follows:

- a. Increased government support through regulation.
- b. Acceleration and assistance of the halal certification process
- c. Improving HR competency
- d. Improving the monitoring, assistance, and mentoring functions of MSMEs
- e. Expansion of Islamic financial services to villages
- f. Simplification of financing processes in Islamic financial services institutions

The Result of AHP Analysis

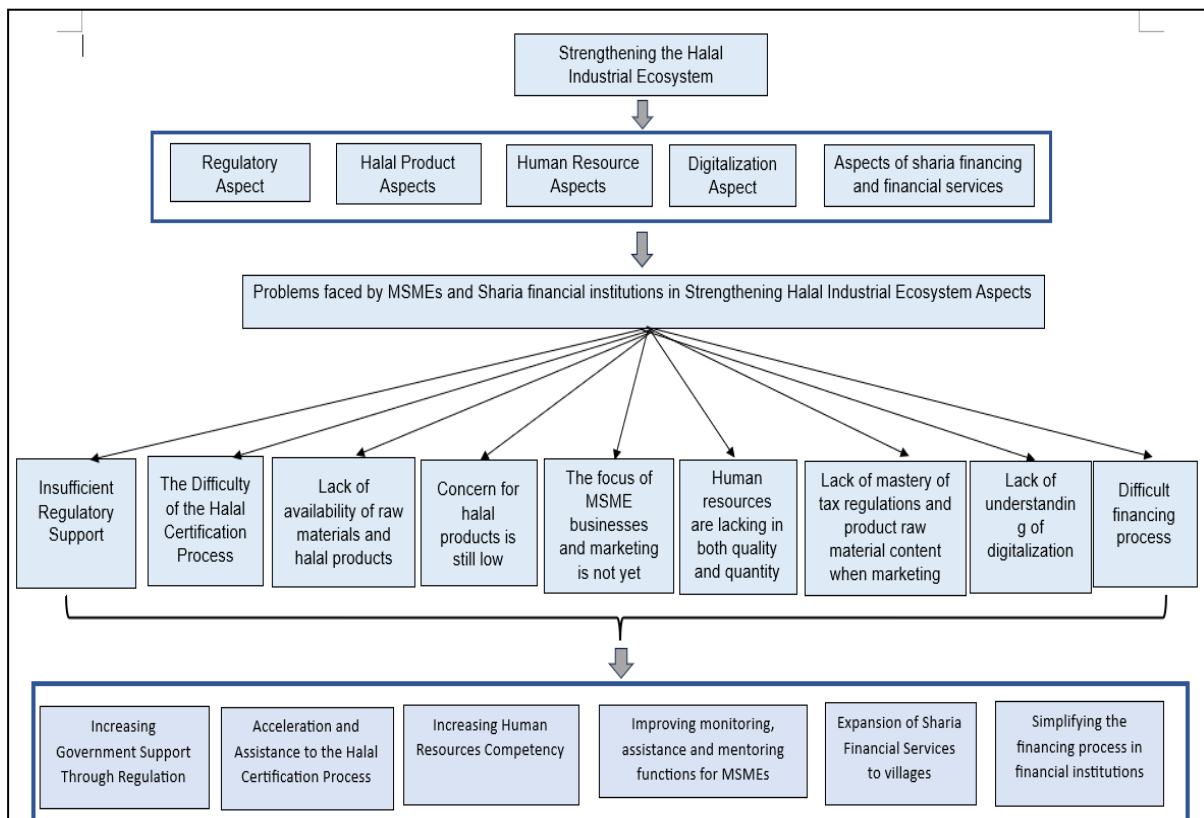
The AHP (Analytical Hierarchy Process) analysis was conducted to determine the level of importance of each AHP level, namely: (1) the level of problems encountered in strengthening the halal industry ecosystem through the roles of MSMEs and Islamic financial institutions, and (2) the level of strategies. Each of these levels is explained in the following sections.

Level of Interest Analysis Problems and Strategies in Analytical Schemes Hierarchy Process

Based on the results of interviews with informants from BMT Beringharjo, Fintech Syariah, KNEKS, the government, and academics, information was obtained regarding problems and solutions related to optimizing the role of MSMEs and Sharia Financing Institutions in strengthening the halal industry ecosystem. This information is the material in compiling the AHP hierarchy scheme presented in Figure 3.

Figure 3

AHP Hierarchy



Source: Primary data. Authors' analysis.

In the AHP hierarchy in Figure 3, the information generated from key informant interviews is grouped into three levels of the AHP hierarchy. The first level, which is the goal, is strengthening the halal industry ecosystem by optimizing the role of MSMEs and Islamic financial services institutions. The second level, the criteria level, is the aspect of the halal industry ecosystem, the third level, the sub-criteria level, is the problem that occurs in realizing the goal, and the last level is the strategy in realizing the strengthening of the halal industry ecosystem. The next stage is determining the highest level of importance at each level, each informant has provided an assessment of the level of importance starting from the elements of each criterion, elements of each sub-criteria, and elements of choices. The informant's answer must meet the consistency ratio value $< 0,1$. If the consistency ratio value is $> 0,1$, then the assessment

from the informant must be issued. The results of the consistency ratio of each informant can be seen in Table 4.

Table 4

Consistency Ratio Results

Level	Criteria and Subcriteria	MSMEs Asociation	Sharia Fintech	KNEKS	BMT	Academic
1	Halal Industry Ecosystem Aspect	0.000	0.0152	0.0296	0.00036	0.0399
2	Problem Aspect	0.006	0.0442	0.0399	0.03067	0.0213
3	Solution and Strategy Aspect	0.000	0.0327	0.0213	0.04919	0.0060

Source: Primary data. Authors' analysis.

The results of the ratio index consistency of all key informants show a value of <0.1. This indicates that the informant's assessment of the order of influence at each level of the hierarchy is consistent, resulting in no conflicting answers. The results of the ratio index consistency. This is obtained from paired matrix data processing. The determination of the order of importance of all informants is averaged to produce criteria, sub-criteria, and alternative strategies that have the highest level of importance in strengthening the halal industry ecosystem through the roles of MSMEs and Islamic financial services institutions. The percentage results of the level of importance can be seen in Tables 5, 6, and 7.

Table 5

AHP Results of Level 1 – Halal Industry Ecosystem Aspects

AHP Hierarchy Level	Key Informants					AVG (%)
	MSMEs Asociation	Fintech Syariah	KNEKS	BMT	Academics	
Level 1 – Halal Industry Ecosystem Aspects						
C1-Regulatory	0.0588	0.4466	0.3947	0.3644	0.3947	33%
C2-Shariah Financing Entity	0.2941	0.2963	0.0752	0.1305	0.0752	17%
C3-Product	0.2941	0.0808	0.0950	0.0704	0.0950	13%
C4-Human Resources	0.0588	0.0484	0.2945	0.3644	0.1406	18%
C5-Digitalization	0.2941	0.1279	0.1406	0.0704	0.2945	19%

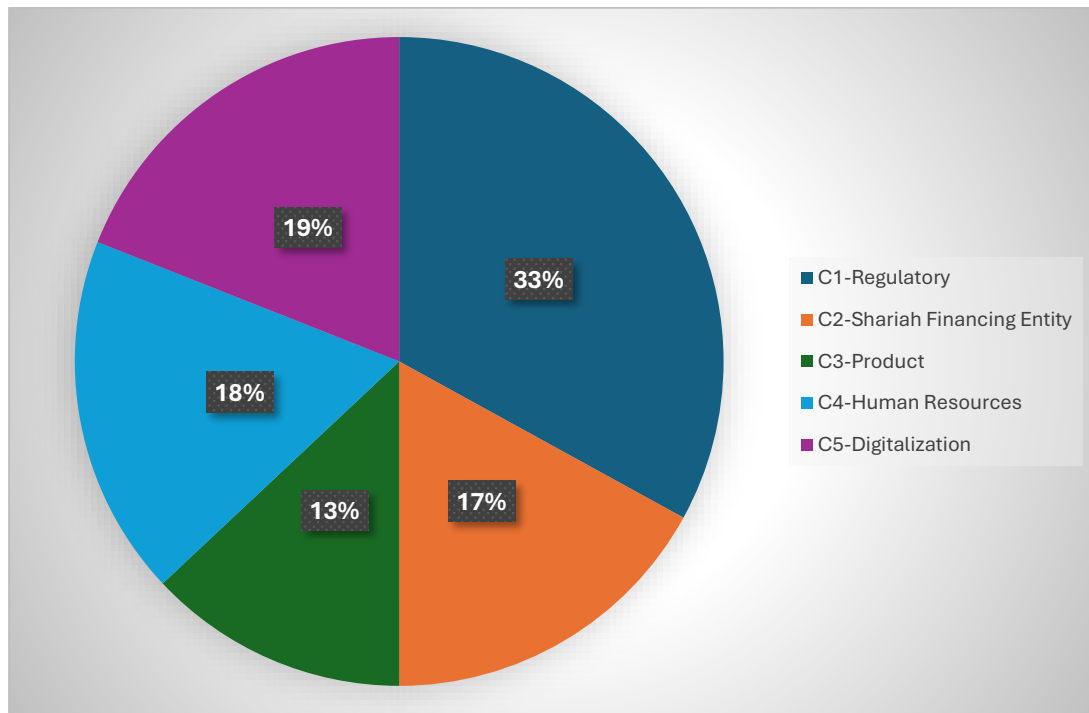
Source: Primary data. Authors' analysis.

Table 5 shows the second level of the AHP hierarchy, which is the criteria level of the halal industry ecosystem. To realize the strengthening of the halal industry ecosystem, several aspects are needed, namely the regulatory aspect, the aspect of the role of Islamic financial institutions, the aspect of product quality and quantity, the aspect of human resource competence, and the aspect of digitalization readiness. The results of the level of importance of each aspect of the halal industry economy processed through the expert application choice and microsoft excel, the aspect that has the highest level of importance in realizing the strengthening of the halal industry

ecosystem is the regulatory aspect. The regulatory body plays the highest role compared to other aspects. In addition, there are several that have almost the same level of importance, namely the aspect of Islamic financial institutions, the aspect of HR, and the aspect of digitalization. These three aspects are interrelated and have equally important roles. The results of the level of importance of each aspect of the halal industry ecosystem are also presented in Figure 4.

Figure 4

AHP Results of Level 1 – Halal Industry Ecosystem Aspects



Source: Primary data. Authors' analysis.

Table 6

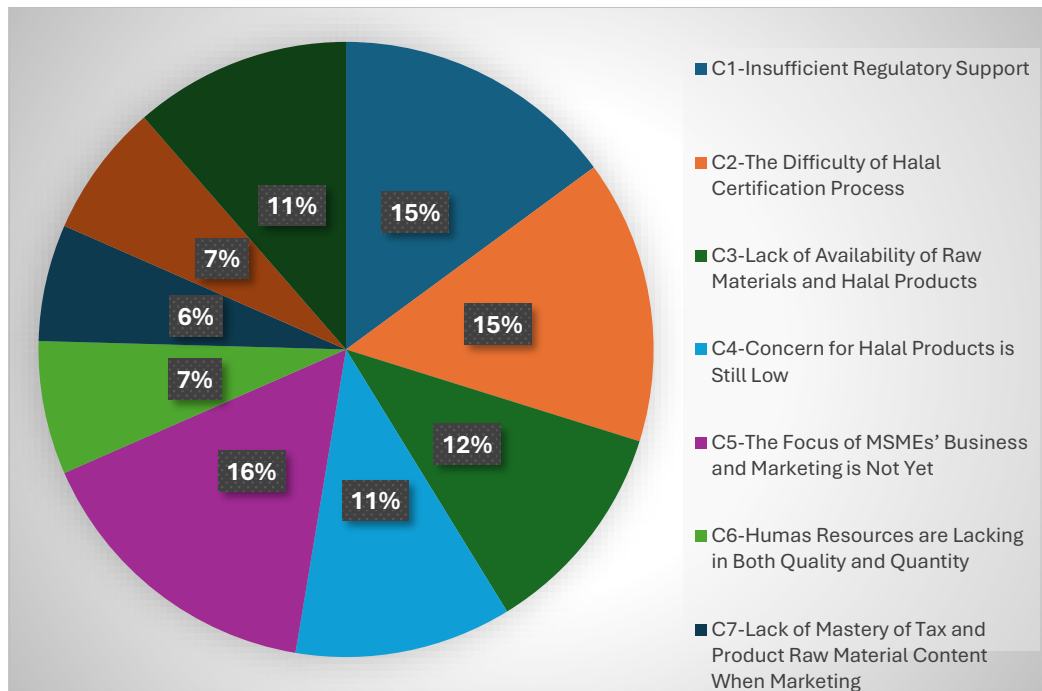
AHP Results of Level 2 – The Problem in MSMEs

AHP Hierarchy Level	Key Informants					AVG (%)
	UMKM Association	Sharia Fintech	KNEKS	BMT	Academics	
Level 2 – The Problem in MSMEs						
C1-Insufficient Regulatory Support	0.03352	0.23996	0.02118	0.47486	0.08497	17%
C2-The Difficulty of Halal Certification Process	0.09081	0.03493	0.27228	0.36869	0.09081	17%
C3-Lack of Availability of Raw Materials and Halal Products	0.09081	0.07337	0.27228	0.13651	0.09081	13%
C4-Concern for Halal Products is Still Low	0.09081	0.29942	0.15983	0.03374	0.05452	13%

AHP Hierarchy Level	Key Informants					AVG (%)
	UMKM Association	Sharia Fintech	KNEKS	BMT	Academics	
C5–The Focus of MSMEs' Business and Marketing is Not Yet	0.38823	0.10442	0.05916	0.20454	0.13651	18%
C6–Humas Resources are Lacking in Both Quality and Quantity	0.03336	0.05476	0.05916	0.08840	0.14598	8%
C7–Lack of Mastery of Tax and Product Raw Material Content When Marketing	0.09081	0.02348	0.05916	0.05549	0.14598	7%
C8–Lack of Understanding of Digitalization and Marketing Strategy	0.09081	0.02368	0.05916	0.05549	0.14598	8%
C9–Difficult Financing Process	0.09081	0.14598	0.03779	0.27998	0.10442	13%

Source: Primary data. Authors' analysis.

The data presented in Table 6 are elements at level 2 of the AHP hierarchy, which in this case are sub-criteria of problems that occur in MSMEs and Islamic financial services institutions. This problem can hinder the development of the halal industry ecosystem. The problem that has the highest level of importance that must be resolved immediately is the existence of regulations that are not very supportive. Problems that are almost the same because they have a level of importance that is not much different from problems related to regulators are problems related to the complex certification process, MSME business factors that are not yet stable, and marketing that is not yet effective. The results of the level of interest subcriteria for every aspect of the problem are also presented in Figure 5.

Figure 5*AHP Results of Level 2 – The Problem in MSMEs*

Source: Primary data. Authors' analysis.

Table 7*AHP Results of Level 3 – Strategy*

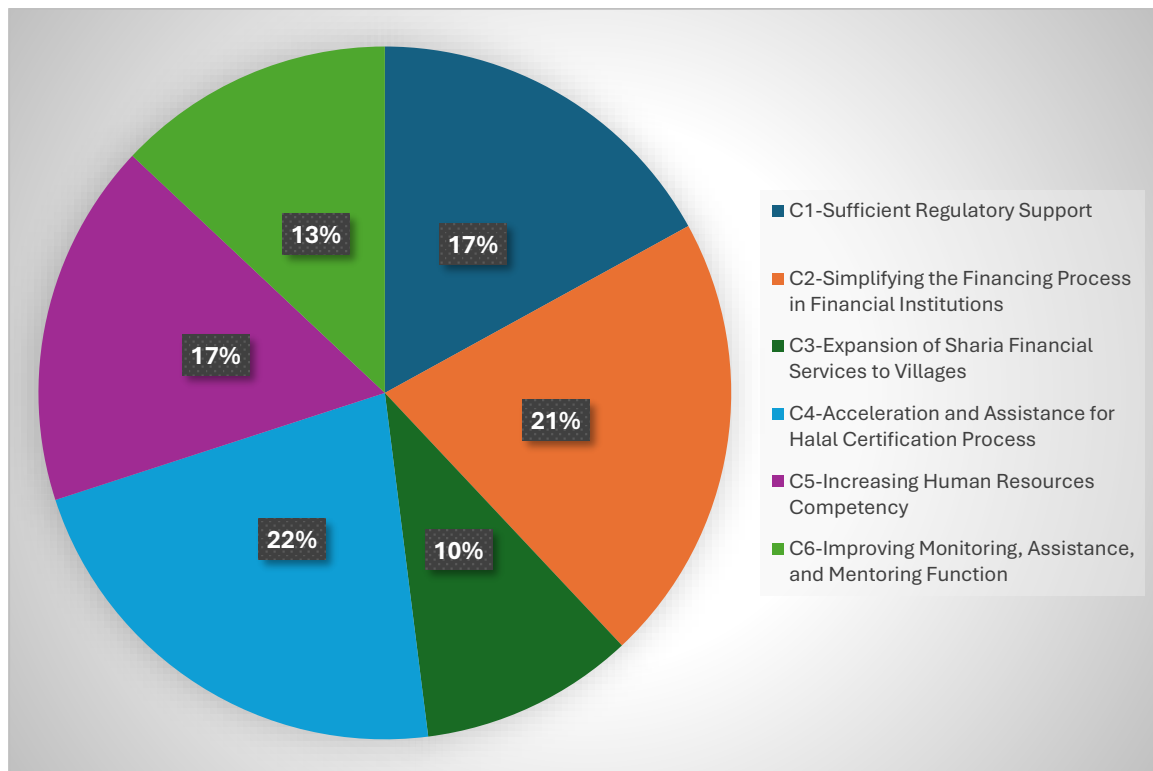
	Key Informants					
AHP Hierarchy Level	UMKM Association	Sharia Fintech	KNEKS	BMT	Academics	AVG (%)
Level 3 – Strategy						
C1-Sufficient Regulatory Support	0.167	0.035	0.074	0.415	0.035	17%
C2-Simplifying the Financing Process in Financial Institutions	0.167	0.442	0.074	0.166	0.182	21%
C3-Expansion of Sharia Financial Services to Villages	0.167	0.076	0.122	0.040	0.035	10%
C4-Acceleration and Assistance for Halal Certification Process	0.167	0.035	0.429	0.248	0.076	22%
C5-Increasing Human Resources Competency	0.167	0.182	0.259	0.065	0.442	17%
C6-Improving Monitoring, Assistance, and Mentoring Function	0.167	0.229	0.043	0.065	0.229	13%

Source: Primary data. Authors' analysis.

Table 7 shows the results of the level of importance of the strategic aspects to overcome the problems that occur. The strategy with the highest level of importance is the simplification strategy in the certification process. Another strategy with a level of importance that is not much different is the strategy of simplifying the process of applying for financing at Islamic financial services institutions. However, when viewed from the percentage of the level of importance of other strategies, the amount is not too different. This shows that all strategies are integrated and dependent on each other. To strengthen the halal industry ecosystem, these strategies are needed which have a level of importance that is not much different. The Results of the Level of Importance of Strategy Levels are also presented in Figure 6.

Figure 6

AHP Results of Level 3 – Strategy



Source: Primary data. Authors' analysis.

The required strategies to address existing issues will certainly be more easily achieved if each strategy is supported by technology-based processes. The acceleration of the halal certification process will be realized more quickly if there is easy access through digital online platforms, although assistance and guidance are still necessary. If the technology is designed to be easy to operate, comfortable, and secure, MSME actors will feel optimistic and continue to innovate until users are convinced of the resulting benefits. Another strategy, such as simplifying financing procedures and expanding the coverage to rural areas for the financial industry, will also be more easily realized if these processes and goals are integrated with



technology. The role of digitalization has also been highlighted by previous researchers, who noted that as digital platforms become more integrated into halal certification, marketing, and financing processes, MSMEs are increasingly leveraging these technologies to overcome operational and regulatory challenges. Digitalization has become a phenomenon, especially since the post-COVID-19 era, as society has become more familiar with the digital era and has demonstrated improved performance as a result (Junusi, 2020; Purba & Balqiah, 2024; Showole et al., 2025).

DISCUSSION

Strengthening MSME Competitiveness through Halal Certification

This study finds that simplifying the halal certification process and increasing access to Sharia-compliant financing are critical to empowering MSMEs in Indonesia's halal industry ecosystem. The AHP analysis confirms that streamlined certification procedures and inclusive financial access rank highest in strategic priority. Halal certification is not merely a religious requirement but also a competitive instrument that can expand MSMEs' market access and foster consumer trust. Given that many MSMEs still lack certification, simplification of registration, reduction of costs, and literacy development are indispensable. When properly implemented, these strategies can improve MSME performance, strengthen supply chain reliability, and enhance the overall resilience of the halal ecosystem.

These findings resonate with prior studies showing that halal certification enhances trust and competitiveness (Hasan et al., 2020; Sari et al., 2023). In Malaysia and the UAE, structured certification systems supported by government incentives and inter-agency collaboration have significantly contributed to the success of halal-certified MSMEs (Dashti et al., 2024; Zakaria et al., 2024). Malaysia's Halal Industry Master Plan, for example, incorporates financial subsidies and mentoring for small enterprises, leading to increased certification uptake (Azizah et al., 2023; Saima et al., 2024). Such multi-stakeholder models could inform Indonesia's strategy, especially by integrating education and traceability technologies into certification processes.

While these supportive frameworks prove effective in Malaysia and the UAE, some challenges persist. Certification costs and bureaucratic barriers still inhibit small enterprises, particularly those in rural areas (Supriadi, et al., 2023; Yusuf et al., 2020). Therefore, simplifying Indonesia's halal certification process should not only replicate foreign models but also address local capacity gaps. Aligning BPJPH initiatives with MSME readiness and regional institutional support is essential. Theoretically, this confirms the importance of institutional proximity and regulatory responsiveness. Practically, this implies the need for state-backed incentives, educational outreach, and digital facilitation tools to bridge structural constraints.

Enabling Financial Inclusion through Sharia-Compliant Financing

This research emphasizes that inclusive access to Sharia-compliant financing is a linchpin for MSME empowerment within the halal ecosystem. Results reveal that limited financing options restrict halal MSME growth, especially in underserved areas. The AHP

analysis shows that financial inclusion through Islamic institutions ranks as a top priority alongside certification simplification. MSMEs often lack collateral or financial literacy, making traditional banking services inaccessible. Sharia financing models—based on profit-and-loss sharing, ethical lending, and social equity—are more aligned with MSME needs. Therefore, enhancing outreach, reducing risk perception, and strengthening Sharia governance are vital.

These insights are supported by previous studies demonstrating the role of institutions like BMTs and Islamic rural banks in promoting Sharia finance for MSMEs (Isfianadewi, 2024; Setiawan & Mardian, 2021). Regulatory innovations, such as the establishment of Sharia Supervisory Boards (SSBs), have improved consumer trust and compliance in Islamic finance (Fitri & Murniati, 2021). Malaysia's collaborative efforts, combining financial institutions, community organizations, and state programs, offer a replicable model for Indonesia. Moreover, community engagement, financial literacy, and capacity-building initiatives have shown promise in increasing financing uptake among rural MSMEs.

Despite these advancements, challenges remain in institutional capacity and public awareness. Limited human resources, underdeveloped outreach mechanisms, and insufficient risk management tools hinder effective financing. Some studies caution that regulatory burdens or unclear governance in Islamic finance may slow MSME participation (Bhalla et al., 2023). This highlights the need for a robust institutional ecosystem and strong policy commitment. Theoretically, this underscores the role of institutional trust and inclusive financial architecture. Practically, expanding fintech-enabled Sharia platforms and promoting grassroots partnerships can ensure equitable financial access across regions.

Digital Integration in Certification and Financing

The findings of this study indicate that digital integration significantly enhances the accessibility and efficiency of halal certification and Sharia-compliant financing. The AHP analysis places digital platforms among the core strategic enablers of halal ecosystem development. Streamlined online procedures reduce bureaucratic friction, while fintech innovations and blockchain technologies improve traceability, accountability, and user experience. For MSMEs, especially those in rural or underserved regions, user-friendly digital solutions mitigate geographic and infrastructural barriers, thereby democratizing access to certification and financing services.

This observation is in line with recent literature emphasizing the transformative impact of digitalization in Islamic finance and halal governance. AI and blockchain applications have been recognized as tools for increasing transparency, optimizing risk analysis, and ensuring Sharia compliance (Mohd Haridan et al., 2023; A. M. Putri et al., 2022). Countries like the UAE and Malaysia have adopted digital platforms to facilitate halal certification and traceability with notable success (Maulida & Ali, 2023; Wahyuni et al., 2024). Digital tools also offer cost-effective solutions for MSMEs to meet regulatory standards without burdensome paperwork or delays.



Nonetheless, successful digital integration requires strong foundational infrastructure, financial literacy, and stakeholder collaboration. MSMEs often face digital literacy gaps that limit their ability to adopt technology ([Fitriyah & Rahmawati, 2022](#); [Yulianto et al., 2024](#)). Without robust cybersecurity measures and inclusive design, digital platforms may inadvertently exclude vulnerable groups. Therefore, policymakers must promote capacity building, invest in digital literacy, and develop regulations that safeguard user data. From a theoretical standpoint, this emphasizes the intersection of digital readiness and institutional inclusivity. In practice, it urges multisectoral coordination to ensure digital equity within the halal ecosystem.

Human Capital Development for MSME Readiness

This study finds that human capital, particularly Sharia literacy and digital proficiency, is a foundational component in enabling MSME integration into the halal ecosystem. Interview results show that limited understanding of halal standards and insufficient digital capabilities are key obstacles for certification and financing access. The AHP analysis further validates human capital development as a supporting priority. MSMEs lacking these skills are less likely to pursue halal certification or engage with Islamic financial institutions. Thus, training, mentorship, and educational programs are necessary to build MSME readiness.

This aligns with literature indicating that sharia literacy and digital competency enhance entrepreneurial resilience and market competitiveness ([Ihsan et al., 2022](#); [Izzuddin & Adinugraha, 2022](#)). Government-sponsored workshops, industry mentorships, and vocational partnerships with universities have been shown to improve MSME capacity in halal product development and financial management ([Fadila et al., 2023](#)). Moreover, integrating digital tools into educational outreach broadens the reach of training initiatives, particularly for MSMEs in remote areas. Such blended learning models have demonstrated positive effects on certification rates and financial inclusion.

However, some scholars argue that knowledge-based interventions alone are insufficient without structural support. Regulatory clarity, ease of certification, and economic incentives must accompany education to create meaningful change ([Dimand et al., 2023](#)). Others highlight the challenge of sustaining behavioral change among MSMEs without continued mentorship or institutional follow-up ([Kimbali, 2020](#)). These perspectives reinforce the idea that human capital development must be embedded within a systemic framework. Theoretically, this underscores the complementarities between agency and structure. Practically, it suggests integrating education with legal reform, market access, and technological innovation for a holistic empowerment strategy.

CONCLUSION

This study has emphasized the strategic importance of empowering Sharia-based MSMEs and financial institutions to enhance the halal industry ecosystem in Indonesia. Through Analytical Hierarchy Process (AHP) analysis, the research identifies four key

strategic pillars: simplification of halal certification, inclusive access to Sharia-compliant financing, digital integration, and human capital development. These findings highlight the interconnectedness of regulatory, financial, technological, and educational factors in supporting MSME competitiveness and sustainability in the halal sector. When these elements are aligned through policy frameworks like the P2SK Law, they can significantly strengthen the resilience and inclusiveness of the national halal economy.

The discussion reveals that countries such as Malaysia and the UAE have successfully implemented integrated certification systems and inclusive Sharia finance mechanisms, offering valuable benchmarks for Indonesia. However, structural and contextual challenges—such as cost burdens, digital illiteracy, and regulatory fragmentation—necessitate localized strategies. This research contributes to the literature by offering a systems-based framework for understanding stakeholder roles, strategic priorities, and institutional interactions within the halal ecosystem. It bridges theoretical insights on institutional support with practical tools for MSME empowerment and policy implementation.

In addition to informing national policy, this study adds to the growing discourse on halal economics and Islamic finance by empirically grounding its findings in multi-stakeholder input and hierarchical decision modeling. The study's significance lies in its integrated and solution-oriented approach, which captures both macro-level policy objectives and micro-level operational needs. By illuminating how strategic alignment among certification bodies, financial institutions, and MSMEs can enhance halal ecosystem performance, this study sets the stage for targeted interventions and future evaluations. The research thus not only advances academic understanding but also offers actionable insights for regulators, practitioners, and development agencies.

Limitation of the Study

While this study offers important insights into the strategic development of the halal industry ecosystem, it is not without limitations. First, the AHP model is highly reliant on expert judgment and qualitative assessment, which introduces an inherent level of subjectivity. The selection of respondents—although conducted through purposive sampling—may not fully represent the diversity of perspectives from all halal industry stakeholders across Indonesia. Furthermore, the study focuses predominantly on regulatory and institutional aspects at the national level, potentially underrepresenting localized issues, such as regional disparities, cultural differences, or sector-specific constraints within various MSME clusters.

Second, while thematic and AHP methods provide structured prioritization, they are limited in capturing causal relationships or temporal dynamics. The study does not empirically test the effectiveness of implemented strategies nor measure longitudinal impacts on MSME performance or halal certification outcomes. Moreover, the scope of digital and financial inclusion variables was conceptually addressed but not evaluated through large-scale data or quantitative models. Future studies may benefit from triangulating these findings with econometric or longitudinal approaches to enhance

generalizability and robustness. Despite these limitations, this research lays a foundational framework for deeper inquiry and policy experimentation in halal industry development.

Recommendations for Future Research

Building on the insights of this study, future research should explore the long-term impacts of regulatory reforms—particularly the P2SK Law—on MSME participation and performance in the halal sector. Longitudinal case studies or panel data analysis could capture how certification uptake, financial access, and digital engagement evolve over time in response to policy interventions. Such empirical studies could provide evidence-based validation of strategy effectiveness and inform future regulatory refinement. Additionally, comparative cross-country analyses could investigate how similar economies balance halal compliance, financial inclusion, and MSME development within diverse institutional settings.

Future researchers are also encouraged to investigate sector-specific applications of the halal ecosystem, such as halal tourism, pharmaceuticals, and fashion, where standards and compliance mechanisms may differ significantly. There is also a need for micro-level behavioral studies examining how MSMEs make decisions related to halal certification, financing, and technology adoption. Expanding the research scope to include consumer perspectives on halal branding, trust, and market responsiveness can also enrich the discourse. Finally, incorporating gender and youth dimensions within halal entrepreneurship research would shed light on inclusivity and social sustainability, especially in underserved regions where MSMEs serve as crucial engines of development.

Author Contributions

Conceptualization	E.A., M., I.I., & R.	Resources	E.A., M., I.I., & R.
Data curation	E.A., M., I.I., & R.	Software	E.A., M., I.I., & R.
Formal analysis	E.A., M., I.I., & R.	Supervision	E.A., M., I.I., & R.
Funding acquisition	E.A., M., I.I., & R.	Validation	E.A., M., I.I., & R.
Investigation	E.A., M., I.I., & R.	Visualization	E.A., M., I.I., & R.
Methodology	E.A., M., I.I., & R.	Writing – original draft	E.A., M., I.I., & R.
Project administration	E.A., M., I.I., & R.	Writing – review & editing	E.A., M., I.I., & R.

All authors have read and agreed to the published version of the manuscript.

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The study was approved by Program Studi Akuntansi (D3), Politeknik Keuangan Negara STAN, Kota Tangerang Selatan, Indonesia.

Informed Consent Statement

Informed consent was obtained before respondents answered the interview.

Data Availability Statement

The data presented in this study are available on request from the corresponding author.

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Conflicts of Interest

The authors declare no conflicts of interest.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

During the preparation of this work, the author used ChatGPT to improve the clarity of language and readability of the article. After using this tool, the author reviews and edits the content as needed and takes full responsibility for the content of the published article.

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