



Accelerating Economic Transformation through Enhancing Competitive Halal Food Downstreaming for National Resilience

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Abstract

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Purpose: This study explores the integration between food downstreaming and the halal industry through value chain integration theory, industry competitiveness concept and astagatra national resilience perspective.

Study Design/Methodology/Approach: The research was conducted using a qualitative descriptive method. Data were collected through systematic literature analysis and interviews with various experts in the fields of economics and wealth sources. The descriptive-analytical analysis was conducted using the framework or concepts of Porter's diamond model, CRT, SWOT (EFAS and IFAS), and TOWS.

Findings: The Porter's Diamond Model analysis indicates that the halal food downstreaming industry in Indonesia is not yet fully competitive, with the CRT analysis identifying four root causes. Then, based on the SWOT analysis, the coordinates (2.43; 2.78) were obtained, indicating the need for a "turnaround" strategy to enhance competitiveness and address the identified weaknesses in the halal food downstreaming industry.

Originality/Value: This study present national strategy to enhance halal food downstreaming based on the value chain integration theory. Indonesia needs to expand market penetration through trade diplomacy, product diversification, culinary-based branding, and credible halal certification. The government needs to develop industrial clusters, provide incentives for supporting industries, partner with research institutions and universities, and adopt international standards. Furthermore, capacity building and awareness among MSMEs need to be strengthened through national-scale training programs that focus on best practices, technological advancements, and market access strategies. Finally, cross-sector policy integration needs to be improved.

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INTRODUCTION

Economic independence is part of national resilience, underpinning the Indonesian government's policy of transforming the economic structure and reducing dependence on raw material exports (Kesya Nafisa et al., 2024). A Bank Indonesia (2023) survey indicated that more than 65% of Indonesia's exports still consist of raw materials. Furthermore, the added value of manufacturing sector contribution to national GDP, is lower than the average of other developing Asian countries. Subsequently, one of the policy strategies to be implemented in an economic transformation plan is through the downstreaming in agriculture sector, particularly food products (Keputusan Menteri Pertanian Republik Indonesia Nomor 484/KPTS/RC.020/M/8/2021 tentang Rencana Strategis Kementerian Pertanian Tahun 2020-2024). Yet Indonesia's food downstreaming was only 22%, lower than Thailand at 45% and Vietnam at 38% (Laborde et al., 2024). In fact, in addition to reducing dependence and increasing the added value of raw material exports, as has been implemented for palm oil exports, food downstreaming also has the potential to absorb 29.76% of the national workforce (Badan Pusat Statistik, 2024; Saragih & Rahayu, 2022). Furthermore, food downstreaming can strengthen stability and prevent disruptions to food supplies that can impact inflation, poverty, social unrest, and political crises (Afandi & Feryanto, 2023), therefore, become enabler for national resilience based on *astagatra* (Basundoro & Sulaeman, 2022). In the *astagatra* perspective, food downstreaming is closely related to the strengthening of natural resources, economic resilience, demographic productivity, and socio-cultural stability. Therefore, strengthening food downstreaming can be understood as both an economic transformation agenda and a strategic effort to support national resilience

Food downstreaming through integration with the halal industry can create an inclusive and globally competitive economic ecosystem global (Hakim & Sugianto, 2024). In 2023, the global halal food industry value reach USD 2.32 trillion and projected to be USD 2.8 trillion by 2030 (Dinar Standard, 2024). Indonesia, as a country with a Muslim majority population of 87% and the largest in the world, is strategically positioned to capitalize on the potential (N. Maulana & Zulfahmi, 2022). This large domestic Muslim market can serve as a strong demand base for developing value-added halal food products before expanding to regional and global markets. Therefore, the integration of food downstreaming and the halal industry is strategically important to transform Indonesia from a raw material supplier into a competitive producer of halal food products

However, Indonesia has not maximized the potential of halal industry. Despite having the largest Muslim population in the world, Indonesia only ranks third in the world Islamic economic index, behind Malaysia and Saudi Arabia (Dinar Standard, 2025). The integration of Indonesian food downstreaming and halal industry still faces various challenges along the supply chain, limited human resource capacity, limited access to financing, weak education and understanding of halal certification, and limited supporting infrastructure (Mukminin & Malahayatie, 2024). These challenges weaken the readiness of MSMEs to enter the halal value chain and reduce the efficiency of halal food production, certification, distribution, and market expansion. As a result, Indonesia

has not fully transformed its abundant raw material potential into high-value and globally competitive halal food products

According to Porter (1990), four determinants are necessary to consider to increase competitiveness, that are, factor conditions, demand conditions, related and supporting industries, and strategy and competition. Furthermore, the development of the halal industry requires a systemic integration of social, economic, and environmental aspects (Ostrom, 2009), which includes addressing the specific needs of various stakeholders, such as consumers, producers, and regulatory bodies, to ensure a holistic approach to industry growth. Food downstreaming in the halal industry should ensure compliance to Sharia values from throughout the value chain (Asri & Ilyas, 2022). Therefore, this integrated approach needs to focus on the factors that contribute to the competitiveness of the halal industry. Previous studies have shown that food downstreaming can increase value-added, strengthen agricultural value chains, and support the competitiveness of the domestic food industry (Afandi & Feryanto, 2023; Ibnu, 2023). Other studies have also emphasised that the development of the halal industry requires strengthening the integration of the halal value chain, certification, MSME readiness, and industrial competitiveness to position Indonesia as a global halal hub (Hakim & Sugianto, 2024; Akim et al., 2024). However, these studies have not sufficiently integrated food downstreaming and halal industry development within a single framework that connects value chain integration, industrial competitiveness, and national resilience. This gap is important because halal food downstreaming is not only related to increasing value-added and industrial competitiveness, but also to strengthening economic independence, food security, and national resilience. Therefore, the novelty of this study lies in integrating food downstreaming, the halal value chain, competitiveness analysis, and the Asta Gatra perspective into a single strategic framework for accelerating Indonesia's economic transformation.

Based on the background, topics, and gaps in previous research on the integration of food downstreaming and the competitiveness of the halal industry, the problem formulation in this study is determined to be "how to enhance halal food downstreaming to accelerate economic transformation for national resilience?". The unit of analysis in this study is the supply chain of the Indonesian halal food industry which includes aspects of production, distribution, certification, and sharia compliance. This article is written with a structure consisting of Introduction, theoretical studies, empirical studies, methods, results and discussion, and finally conclusions and suggestions.

LITERATURE REVIEW

Theory of Value Chain Integration in Halal Industry

The halal industry is a system in which all activities, from production, distribution, consumption, and exchange of goods and services, are carried out in accordance with Islamic law and values regarding justice, transparency, the prohibition of *riba* (interest), the prohibition of *gharar* (excessive uncertainty), and the prohibition of *maysir* (gambling) (Bawafie et al., 2024; Heriyanto & Taufiq, 2024; Syadzily, 2025). Halal

assurance in Indonesia is carried out by *Badan Penjaminan Produk Halal (BPJPH)* which is based on Undang-Undang Nomor 33 Tahun 2014 Tentang Jaminan Produk Halal.

The concept of Value Chain Integration (Gereffi & Lee, 2016; Porter, 1998) is used as grand theory in formulating strategies for enhancing the competitiveness of halal food downstreaming industry. The concept stated that both vertical and horizontal integration in halal value chain can increase efficiency and value creation, while reducing costs (Halik et al., 2025). Furthermore, Porter's Diamond Model (Porter, 1990) provides a framework for evaluating competitiveness by using four factors, that are factor conditions, demand conditions, related and supporting industries, company strategy and competition within the industry. Applying the concept of Value Chain Integration to achieve competitiveness utilizes the concept of industrial clusters (Porter, 1998), which are geographic concentrations of interconnected companies within a supply chain or value chain.

In this study, if the Porter's Diamond model analysis indicates that the halal food industry is not yet competitive, then the root cause is sought using the current reality tree (CRT) framework (Dettmer, 1998; Mabin, 2015). The root cause and other factors from the competitiveness analysis are then grouped into internal and external factors using the SWOT concept as well as EFAS and IFAS to determine the type of strategy that needs to be formulated (Juliana et al., 2025). The strategic points are then derived using the TOWS concept and the research grand theory (Son et al., 2025; Weihrich, 1982).

Empirical Studies on Food Downstreaming

Researches and literatures have shown that value added in food sector, particularly strategic agriculture, plantation and fishery commodities can be increased through products downstreaming (Ibnu, 2023). In fisheries, the research conducted in Serdang Bedagai confirmed that an industrialization and increased supply chain had supported regional economic growth (Nainggolan et al., 2019). A study using the national panel data in 2016-2020 also found that fishery and export activities had positive effects on production sector (Nababan & Nofrian, 2025). Within the plantation industry, processing of Cacao Powder to chocolate bar can add a value up to 200% (Gandhy & Prabowo, 2020). Aside from increasing the value of strategic foods, downstreaming of the food sector also supports the domestic processed food industry, especially import substitution in sugar and meat industries, fish, carbohydrate-based food, and flour (Afandi & Feryanto, 2023). Rosadi (2023) found that food industry has the greatest contribution to national economic when compared with other industries.

Empirical Studies on Best Practice of Value Chain Integration

Various studies have demonstrated the positive impact of the Value Chain Integration Concept and other best practices on the halal food industry in various countries. There are some integrated halal ecosystems in Malaysia (Saima et al., 2024). One example of ecosystem is Halal Malaysia Industrial Parks (HALMAS) which

specialized in processed food, nutraceuticals and downstream palm oil (Bank Negara Malaysia, 2023; Ministry of Investment Trade and Industry, 2023). These projects are located throughout Malaysia and have received RM 15 billion in investment in between 2020 to 2023. Other project is the Farm-to-Fork Integration Program that connect fifty thousand farmers to industry, which ensures halal raw materials in upstream-covering precision technology and quality standardization (Hakim & Sugianto, 2024). The support provided by the government includes an allocation of RM 5 billion in investment (2015-2025), a centralized halal certification program under JAKIM, HDC (Halal Development Corporation) for promotion and development of halal products, MATRADE for exportation of halal products and adoption of MS1500:2019 that has also been adopted by 45 countries (Ferdiansyah & Dompok, 2024). The integrated halal ecosystem has economic value (7.5% of GDP 2023, export of product valued at USD 11.5 billion in 2023, absorbs 250.000 direct jobs and make the global reach by increase market coverage in about 1.1% (Aulia, 2024).

Turkey has implement several halal food downtreaming strategies (Akin & Okumuş, 2020). One example of the initiative is the Konya Traditional Food Industry Cluster that supported with global halal certification (Aslan, 2023). The cluster has an annual production value of 2.5 billion EUR. Similarly, Turkey has also applied a chain integration model in the process of halal food production, particularly for bakery products, processed meat and dairy products (Uluata & Güler, 2024). In order to strengthen the competitive capacity of halal food production, leading private company brands' like Ülker, Eti and Pınar are required to invest 3% of their sales into product innovation R&D (Atalan-Helicke, 2020). Turkish Halal Standard (TSE-OIC/SMIIC) adopts the global standardization in halal food production (Varlı & Şimşek, 2023) and the industry form alliances with international retail chains like Carrefour and Metro (Alpagut, 2021). The halal food products penetration mix distribution is focused on Europe (60%), Middle East (25%), and Asia (15%) and the targeted export value of halal food product export for 2023 will increase to USD 5.8 billion.

Based on the "Kitchen of the World" branding, Thailand has integrate the halal food industry to the international market (Kadir, 2020). One program implementing this concept is the development of halal industrial zones in various regions, particularly in the Pattani region in Southern Thailand (Tangkham, 2025). This regional scheme took in a THB 15 billion investment and provide 50,000 jobs. Further, one scheme is contract farming that offers price assurance and capacity building to over 100 thousand halal farmers (Marks et al., 2024). Thailand also has put in place a halal certification system run by CICOT (Central Islamic Council of Thailand) with support from a network of accredited laboratories as well as the Halal Science Centre Chulalongkorn University for research and innovation centre (Aulia & Surwandono, 2024).

METHODS

The study use a qualitative descriptive method, drawing on economic perspectives, global competitiveness, and national resilience (Krippendorff, 2018; Saunders et al., 2015). The data were gathered using a systematic literature review procedure on policy

documents from ministries/institutions and scientific publications related to the food industry and halal downstreaming industries in the period 2020–2024, including projections until 2030 and benchmark data from relevant countries. The selected literature and documents focused on food downstreaming, halal industry development, halal certification, value chain integration, industrial competitiveness, and national resilience. Experts and strategic studies experts at Lembaga Ketahanan Nasional Republik Indonesia were also interviewed to confirm the relevance of the identified factors and to strengthen the interpretation of the findings from the perspective of national resilience (Saldaña, 2021).

The analytical methods used in this descriptive-analytical study were the model of diamond porter, CRT, SWOT (EFAS and IFAS) and TOWS matrix (Dettmer, 1998; Juliana et al., 2025; Mabin, 2015; Son et al., 2025; Weihrich, 1982). The analysis was conducted in several stages. First, Porter's Diamond Model was used to identify the competitiveness factors of the Indonesian halal food downstreaming industry. Second, CRT was used to identify the root causes of its lack of competitiveness. Third, the identified internal and external factors were classified using SWOT and assessed through IFAS and EFAS to determine the strategic position. Fourth, the TOWS matrix was used to formulate strategic alternatives for enhancing halal food downstreaming. In the TOWS analysis, strategies to enhance halal food downstreaming were formulated based on Value Chain Integration Theory, the best practices identified in the literature, and the Asta Gatra perspective of national resilience (Ostrom, 2009; Porter, 1998). The unit of analysis in this study is the governance of the halal food industry in Indonesia, which is integrated into the food downstreaming programme.

RESULT AND DISCUSSION

Result

Factor Conditions analysis (Production Conditions/Input Factors) shows that the competitiveness of the halal food downstream industry in Indonesia is supported by abundant biodiversity, extensive agricultural land, and high productivity, thus providing a diverse supply of raw materials (Akim et al., 2024; Hariani, 2024). Rich culinary traditions also inspire innovative product development. However, the halal food downstream industry still relies heavily on imported raw materials like wheat and soybeans (Hutagaluh et al., 2023). Adoption of processing technology and implementation of international standards remains low, while the availability of experts in the field of halal food technology is insufficient (Hidayati et al., 2024).

Demand Conditions analysis indicates that Indonesia has the largest potential domestic halal product market in the world (Maulizah & Sugianto, 2024). In addition to the dominant Muslim population and high food consumption rates, consumer awareness of the importance of quality, safety, and ethical values of food production guaranteed by the halal label is increasing.

Analysis of Firm Strategy, Structure, and Rivalry shows that several large companies are starting to compete and develop the halal food industry, focusing on both

domestic and export markets, where this competition is driving innovation (Akim et al., 2024). However, the food industry structure is still concentrated in the micro and small and medium enterprises (MSMEs) sector, where halal certification penetration in this sector is uneven (Putri, 2024). Many MSMEs do not fully understand halal certification regulations and are not yet competitive in the halal food industry, thus creating opportunities for competitors to enter the sector.

Analysis of Related and Supporting Industries shows that the halal food industry has strong potential for synergy with tourism, logistics, and e-commerce through advances in digital technology (Daulay et al., 2023). However, collaboration with research institutions or universities has not been optimally developed, thus hindering the adoption of the latest supporting technologies (Astiwara, 2024). This is despite the halal industry in various countries having begun to utilize developments in digital technologies like blockchain and IoT, which facilitate traceability and can increase the efficiency and transparency of the halal value chain (Vanany et al., 2024). Furthermore, access to financing, especially through Islamic banking, remains limited to support the growth of this industry (Akbar et al., 2024).

Chance analysis shows that the growing global Muslim population, which accounts for more than 25% of the global population, is accompanied by a growing halal market. The halal food and beverage sector is projected to grow rapidly at a CAGR of 6.3%, reaching USD 2.8 trillion by 2030 (Mukminin & Malahayatie, 2024). The halal lifestyle trend is also increasing in non-Muslim countries, driven by awareness of health, food safety, and sustainability (ethical consumption) that can be guaranteed by halal certification (Maulizah & Sugianto, 2024). To capitalize on this market potential, opportunities for halal food trade cooperation at the regional and international levels are open, for example through the ASEAN Food Safety Policy (AFSP), the ASEAN Food Safety Regulatory Framework (AFSRF), the Regional Comprehensive Economic Partnership (RCEP), and the ASEAN Trade in Goods Agreement (ATIGA) (Bugi Biruloma Lagaida et al., 2024). In addition to the growing market potential, investment demand for the halal food industry in Indonesia is also increasing (Saputri, 2020), reaching USD 2.3 billion in 2023, a 45% increase from the previous year (Kementerian Investasi dan Hilirisasi/BKPM, 2024). However, there are threats of fluctuating raw material prices and intense competition with countries that have already become global halal centres (Malaysia, Thailand, UAE). Furthermore, protectionist policies like the non-tariff barriers in various countries could disrupt the international trade of Indonesian halal products (Suhaimi & Marliyah, 2023). Global climate change and extreme weather, such as the El Niño phenomenon, which is characterised by the periodic warming of ocean surface temperatures in the central and eastern Pacific, can also disrupt the supply of raw materials for the Indonesian halal food industry (Malau et al., 2023).

For Government role factor, Indonesian halal certification system managed by BPJPH for Halal Product provides a credible and internationally recognized accountability system that is supported by the Indonesian Ulama Council (T. F. Maulana, 2024). The government, in addition, has shown commitment to keeping the competition and development by formulating Komite Nasional Ekonomi dan Keuangan Syariah

(KNEKS) (Arifudin Arifudin et al., 2024). Nevertheless, government policies are still fragmented in ministries and institutions which is indicated from the low promotion and marketing centre of halal certification especially in MSME (Akim et al., 2024). Furthermore, the fiscal incentives and financing access are constrained, adequate supporting infrastructures are uneven in all regions and huge land conversion activity from agricultural to other purposes (Akbar et al., 2024).

Porter's Diamond Model analysis shows that the halal food downstream industry in Indonesia is not yet fully competitive. Weaknesses exist in each factor in Porter's Diamond Model, which ultimately causes Indonesian halal food products to struggle to penetrate the global market, and food downstreaming remains far from the 2030 target of 22%. The factors from the competitiveness analysis shows that not all gatra of astagatra perspective of national resilience have been fulfilled. Among the eight gatra, there are issues on demographic, politic, economic gatra that should be resolved.

Because the halal food industry in Indonesia is not yet competitive, an analysis using the CRT framework was conducted to determine the root causes. Figure 1 shows four root causes that must be resolved, that are limited human resource capacity, limited access to financing, weak education and branding, and unintegrated policies across government sectors.

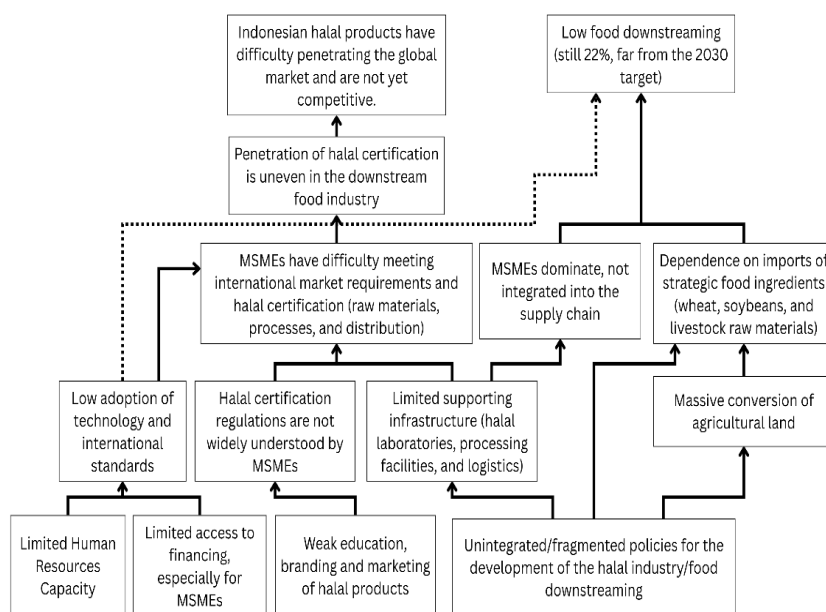


Figure 1. Root Cause Analysis of the Uncompetitiveness of the Indonesian Halal Food Industry (various sources, processed by author).

The root causes and other factors from the competitiveness analysis are then grouped into internal and external factors using the SWOT concept as well as EFAS and IFAS, as shown in Table 1. Based on the results of the IFAS (Internal Factor Analysis Summary) and EFAS (External Factor Analysis Summary) analysis, the IFAS score was 2.43 and the EFAS score was 2.78 on a scale of 1–4. The coordinate point position (2.43; 2.78) indicates that the Indonesian halal and food downstream industries require a

“turnaround” strategy that focuses on improving and strengthening internal factors to be able to pursue and utilize existing opportunities.

Table 1. SWOT, EFAS, & IFAS

Internal Factor Analysis Summary (IFAS)		Weight	Rating	Score
S1	Biodiversity as raw material for the food industry accompanied by very extensive agricultural land and high productivity	0,12	3	0,36
S2	Has the largest domestic market for halal products	0,15	3	0,45
S3	Rich and Diverse Culinary Traditions	0,1	3	0,3
S4	Already has a credible and internationally recognized halal certification system (BPJPH supported by MUI)	0,13	4	0,52
S5	Government commitment through KNEKS and the Indonesian Halal Development Council	0,1	3	0,3
W1	Limited human resource capacity	0,1	1	0,1
W2	Limited Access to Financing	0,1	1	0,1
W3	Weak education, branding and marketing of halal products means that halal certification is not widely understood.	0,1	2	0,2
W4	Unintegrated/fragmented policies (coordination between sectors is not yet optimal)	0,1	1	0,1
IFAS TOTAL		1		2,43
External Factor Analysis Summary (EFAS)		Weight	Rating	Score
O1	Global halal market growth	0,18	4	0,72
O2	The Muslim population is projected to reach over 25% of the world's population. Perceptions of quality, safety, and ethical production in the halal market	0,12	3	0,36
O3	Asean Food Safety Policy (AFSP). Asean Food Safety Regulatory Framework (AFSRF). Regional Comprehensive Economic Partnership (RCEP). Asean Trade in Goods Agreement (ATIGA)	0,08	3	0,24
O4	Technological Advances (Digitalization and Technology 4.0)	0,1	3	0,3
O5	Investment interest in the halal industry in Indonesia based on ethical consumption	0,12	3	0,36
T1	Climate and weather changes (for example El Nino) affect Indonesia's food production.	0,05	2	0,1
T2	Tight competition from other countries (Malaysia, Türkiye and the Middle East)	0,17	2	0,34
T3	Global protectionism limits access of Indonesian halal products to international markets.	0,08	2	0,16
T4	Fluctuations in global food commodity prices	0,1	2	0,2
EFAS TOTAL		1		2,78

(various sources, processed by author)

Discussion

The strategy is then formulated using the TOWS framework and is based on grand theory, refers to the best practices listed, and based on astagatra perspective of national resilience. Indonesia needs to expand into the global market through trade diplomacy in programs like ASEAN, RCEP, and ATIGA (S1-O3). Indonesia needs to diversify products and strengthen the branding of halal food products "Indonesia Halal and Unique," by leveraging the richness of culinary delights, biodiversity, and a credible halal certification system (S2, S3, S4-O1, O2). The Indonesian government encourages vertical integration through the development of industrial clusters and the integration of supply chains from upstream to downstream (W1, W2-O4, O5). In addition, supporting industries like Islamic finance and laboratories also need to be provided with incentives. Farmers, fishermen, and upstream business actors also need to be directly connected with

the processing industry up to export, so that the process of Indonesian halal products becomes more efficient and has connectivity to the global market (S4, S5-O4, O5). Indonesia's risk management and quality assurance systems for halal food products need to be improved and adopted international standards to minimize threats like price fluctuations and protectionist policies. Furthermore, Indonesia needs to accelerate the use of Industry 4.0 technology in certification to strengthen traceability, which will impact global marketing and attract investment in the halal food industry (S5-T1, T2, T3, T4).

From the Asta Gatra perspective, these strategies have direct relevance to several dimensions of national resilience. Halal food downstreaming strengthens economic resilience by increasing value-added production and expanding market competitiveness. It also supports demographic resilience through employment absorption and MSME participation, natural resource resilience through the utilisation of domestic food commodities, political resilience through stronger cross-sectoral policy integration, and socio-cultural resilience through the development of halal consumption culture. Thus, strengthening halal food downstreaming is not only an economic strategy, but also part of a broader national resilience agenda.

Awareness and interest in adopting halal certification with supporting human resource capacity need to be improved, particularly in the MSME sector. The government and major halal food players in Indonesia should collaborate to held national-scale training on international halal safety and quality standards, supply chain management, and marketing techniques. The government should also build partnerships with research institutions and universities to establish centres of excellence in halal food industry clusters that innovate by leveraging culinary richness and biodiversity and accelerate the adoption of the latest technologies related to halal food, particularly at the MSME level (W1, W3-O4, O3). Furthermore, access to sharia financing for MSMEs to enter the halal food industry needs to be strengthened, for example through incentives, capital support, and partnerships with larger halal food producers and distributors (W2-T2, T4). Cross-sectoral policy integration needs to be strengthened to resolve and prevent overlapping policies and regulations, especially in securing agricultural land and halal food industry clusters, ensuring the availability of food raw materials amidst fluctuations in the global supply chain and climate change, and maximally supporting the downstreaming of halal food (W4-T1).

Overall, the discussion indicates that the enhancement of halal food downstreaming requires an integrated policy framework that connects upstream resources, processing industries, halal certification, Islamic financing, research institutions, digital traceability, and export-oriented market access. Without this integration, Indonesia's halal food downstreaming will remain dependent on fragmented initiatives and will not fully contribute to economic transformation and national resilience. Therefore, the main strategic direction is to strengthen internal competitiveness while using external opportunities to build a more integrated, resilient, and globally competitive halal food industry.

CONCLUSION

Porter's Diamond Model analysis shows that the halal food downstream industry in Indonesia is not yet fully competitive, causing Indonesian halal food products to struggle to penetrate the global market. Food downstreaming is still far from the 2030 target of 22%. Besides that, not all gatra of national resilience astagatra perspective have been fulfilled, which indicates that the industry has not optimally support national resilience. Through CRT, four root causes were identified, that are limited human resource capacity, limited access to financing, weak education and branding, and policies that are not yet integrated across government sectors. Then, based on the grouping of all root causes and competitiveness factors through SWOT analysis (IFAS and EFAS), coordinates were obtained (2.43; 2.78), indicating the need for a "turnaround" strategy to improve integration between food downstreaming and the halal industry in Indonesia. Based on TOWS, which refers to grand theory and best practices, various strategies were formulated. Indonesia needs to expand into the global market through trade diplomacy in programs, for example ASEAN, RCEP, and ATIGA. Indonesia needs to diversify products and strengthen the branding of halal food products "Indonesia Halal and Unique," by utilizing culinary richness, biodiversity, and a credible halal certification system. The Indonesian government is encouraging the development of industrial clusters that integrate the upstream to downstream supply chain. Furthermore, supporting industries like Islamic finance and laboratories should be incentivized. The government can also build partnerships with research institutions and universities to establish centres of excellence in halal food industry clusters. The risk management and quality assurance systems for food products in Indonesian halal certification also need to be improved by adopting international standards, thereby minimizing threats like price fluctuations and protectionist policies. Based on the improved halal certification standards, the government needs to conduct national-scale training to raise awareness and interest in adopting halal certification, and to enhance the capacity of supporting human resources, particularly in the MSME sector. Finally, cross-sectoral policy integration needs to be strengthened to resolve and prevent overlapping policies and regulations and to maximally support the downstreaming of halal food.

The authors recommend the government to strengthen synergy between the central and regional governments, the private sector, financial institutions, educational institutions, and civil society in building a globally competitive national halal ecosystem. The central government needs to organize cross-ministerial coordination to develop long-term master plan of regulations and incentives for the halal industry. Regional governments should optimize local halal clusters based on collaboration between regional-owned enterprises (BUMD) and the private sector to implement technology-based business transformation and expand market access with the support of innovative Islamic financing. Educational institutions are expected to produce superior human resources through halal science curricula, research, and professional certification programs, while civil society contribute to education, outreach, promotion of the halal lifestyle, and policy oversight. Therefore, more in-depth research is needed to establish synergy between government and institutions.

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