

Strengthening the Halal Industry Ecosystem through Halal Certification, Product Literacy, Awareness, and Promotion: Moderating Role of Islamic Financing

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ABSTRACT

Purpose: This study examines the influence of halal certification, halal product literacy, halal awareness, and promotional efforts on the development of the halal industry ecosystem, with Islamic financing as a moderating variable. It adopts Ecosystem Innovation Theory to explain collaboration among government, producers, and Islamic financial institutions.

Method: This explanatory quantitative study involved 400 halal-certified MSME actors in the Soloraya region, selected through purposive sampling. Data were collected using a Likert-scale questionnaire and analyzed with SEM-PLS to examine direct and moderating effects.

Result: The findings indicate that halal certification, halal product literacy, and promotional efforts have positive and significant effects on the halal industry ecosystem. Halal awareness does not show a significant direct effect. Islamic financing significantly moderates the relationship between halal awareness and the halal industry ecosystem, but it does not moderate the relationships involving halal certification, halal product literacy, or promotional efforts.

Practical Implications for Economic Growth and Development: The study emphasizes the need for integrated collaboration among MSMEs, government, and Islamic financial institutions. MSMEs should strengthen certification compliance, halal education, and digital promotion. The government should provide regulatory support, certification subsidies, and halal literacy infrastructure. Islamic financial institutions should design financing products that align with halal-certified MSME needs.

Originality/Value: This study extends Ecosystem Innovation Theory in halal industry research by positioning Islamic financing as a moderator. It offers a new perspective on how Islamic financing strengthens the link between halal awareness and halal ecosystem development.

Keywords: *Halal Industry Ecosystem, Halal Certification, Halal Product Literacy, Halal Promotion, Islamic Financing, MSMEs*

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INTRODUCTION

Indonesia's halal ecosystem has experienced substantial growth, supported by the country's position as home to the world's largest Muslim population and by regulatory frameworks that require halal certification for products distributed in the domestic market (Krisna & Yusuf, 2023; Marnita, 2024). This ecosystem covers several strategic sectors, including food, beverages, tourism, Islamic finance, pharmaceuticals, cosmetics, and clothing (Prasetya & Purwono, 2022). Within this ecosystem, financing plays a central role in supporting business expansion, particularly among micro, small, and medium enterprises (MSMEs). The banking sector has allocated financing to MSMEs, which has contributed to their growth in Indonesia (Rusliana & Alisjahbana, 2023). The halal industry and Islamic finance are closely interconnected. Islamic finance provides Sharia-compliant financing instruments, supports ethical business practices, promotes market expansion, and ensures that business activities align with Islamic principles (Raimi et al., 2025). Support from Islamic banking and halal supply chains also contributes directly to the growth of the Islamic economy, especially in the production and trade of halal products (Nuryanto et al., 2024). In addition, Sharia FinTech has expanded MSME access to financing, improved financial inclusion, and supported the achievement of the Sustainable Development Goals, although challenges remain in digital literacy and financial management. Islamic green finance has also begun to support sustainable funding for the halal industry and attract investor interest (Napitupulu et al., 2024). Similarly, Islamic crowdfunding has emerged as an alternative financing model for MSMEs through various Sharia-compliant schemes (Abdeldayem & Aldulaimi, 2022).

Halal certification has become a key determinant of halal industry development. Tumiwa et al. (2023) found that halal certification creates opportunities for economic sustainability, although inconsistent interpretations among certification bodies may limit adoption among micro and small enterprises. In Indonesia, halal food supply chain management, certification, and traceability have a positive and significant effect on SME performance by improving food quality and safety (Martinez & Campos, 2024). Othman and Md Nawi (2025) also found that halal standard practices influence business performance. Halal product literacy also contributes to halal ecosystem development. Bhutto et al. (2022) showed that higher halal product literacy strengthens consumer behavior toward halal products in the food, cosmetics, and tourism sectors. Digital halal literacy and general halal knowledge also improve consumer satisfaction and trust in halal tourism destinations, which can increase revisit intention. Similar findings appear in the halal culinary sector, where halal literacy significantly supports repurchase intention (Gaffar et al., 2024). In Islamic finance, literacy improves Islamic financial inclusion and MSME performance, particularly in the halal tourism sector. Higher literacy increases the ability of business actors to use Islamic financial products for business development (Mujiatun et al., 2023).

Promotional activities also support the development of the halal industry ecosystem. Halal promotion and marketing can increase consumer purchase intention by strengthening awareness and positive attitudes toward halal products (Hasan et al., 2024). Promotion of halal attributes, such as halal food, prayer facilities, and alcohol-free environments, has been shown to improve tourist satisfaction and loyalty among Muslim and non-Muslim visitors. Promotion that emphasizes inclusive values and the advantages of halal destinations can expand market reach and strengthen destination competitiveness (Qureshi et al., 2025). However, promotional effects may differ across markets. In the United Kingdom, advertising promotion does not always have a significant effect on consumer attitudes toward halal products, while factors such as sales location may have stronger influence (Moghaddam et al., 2022). Ethical promotion that aligns with halal principles can also build consumer trust and a positive brand image (Mabkhot, 2023). Government support through regulation, incentives, education, and infrastructure further strengthens halal industry promotion and accelerates ecosystem growth (Talib et al., 2020). Halal awareness has been shown to influence consumer intention and purchasing decisions in several sectors, including food, cosmetics, and tourism. Consumers with higher halal awareness tend to choose and remain loyal to halal-certified products (Aslan, 2023). However, certification procedures that are perceived as complex and costly may reduce the translation of awareness into certification adoption,

although halal awareness remains an important driver of halal-related behavior (Jannah & Al-Banna, 2021; Oemar et al., 2023; Usman et al., 2021). From the perspective of halal brand awareness, stronger product knowledge can support market expansion and profitability, including among non-Muslim consumers (Arifin et al., 2022).

Previous studies on the halal industry ecosystem have examined business ecosystem models, halal ecosystem mapping frameworks, and ecosystem design (Almunawar et al., 2025; Utomo et al., 2020; Zafar et al., 2024). Other studies have focused on challenges and opportunities in the halal ecosystem, including fragmentation, literacy, collaboration, MSME development, and halal tourism (Adham et al., 2023; S. E. Hidayat et al., 2021; Masood & Zaidi, 2021; Rejeb et al., 2021). These studies show that the halal ecosystem is shaped by institutional support, business capability, consumer behavior, and stakeholder collaboration. This study differs from previous research by positioning the halal industry ecosystem as a system shaped by actors, activities, artifacts, institutions, collaboration, and competition across government, producer, and banking sectors. The study develops Ecosystem Innovation Theory by introducing Islamic financing as a moderating variable that strengthens the relationship between halal awareness and halal industry ecosystem development. This approach offers a new perspective on the role of Islamic financing in halal economic development.

This study aims to analyze the effects of halal certification, halal product literacy, promotional efforts, and halal awareness on the development of the halal industry ecosystem. It also examines the moderating role of Islamic financing in these relationships. By applying Ecosystem Innovation Theory, this study seeks to explain how collaboration among government institutions, producers, and Islamic financial institutions contributes to the strengthening of the halal industry ecosystem.

Hypotheses Development

Halal Certification on Halal Industry Ecosystem

Halal certification enhances the confidence of consumers and industry stakeholders in halal products. It also strengthens the reputation and credibility of the halal industry in both domestic and global markets. Certification promotes transparency and traceability through the adoption of technologies such as blockchain, which reinforces the integrity of halal supply chains (Bux et al., 2022; Karyani et al., 2024; Tumiwa et al., 2023). Ecosystem Innovation Theory explains that halal certification encourages cross-sectoral collaboration among government institutions, certification bodies, universities, associations, and business entities. Free certification programs and self-declaration pathways also accelerate the development of the halal ecosystem, although synergy among government institutions still requires improvement (Bux et al., 2022; Karyani et al., 2024; Tumiwa et al., 2023). Halal certification further serves as an important mediating factor in enhancing the business performance of MSMEs across various sectors (Kristanto & Kurniawati, 2025; Tumiwa et al., 2023). Based on this explanation and previous research, the proposed hypothesis is:

H1: Halal certification has a significant positive effect on halal industry ecosystem.

Halal Product Literacy on Halal Industry Ecosystem

Halal product literacy is crucial in shaping consumer behavior toward halal products, including food, cosmetics, and tourism destinations. Consumers with high halal literacy tend to demonstrate stronger attitudes, social norms, and purchase intentions toward halal products (Bhutto et al., 2022; Hidayat et al., 2021). Studies in Pakistan show that halal literacy strengthens the influence of attitudes and social norms on consumer behavior, particularly among the younger generation (Bhutto et al., 2022). Similar findings were observed in India and Turkey, where halal literacy and awareness play important roles in driving preferences and purchase intentions for halal products (Aslan, 2023). For industry players, knowledge and

attitudes toward halal standards encourage organizational commitment to comply with halal practices, which can improve business performance (Utomo et al., 2020). From the perspective of Ecosystem Innovation Theory, halal product literacy supports business actors in understanding halal standards, halal certification, and the broader halal ecosystem. It also encourages the use of halal financial products, improves business performance, and strengthens the halal industry ecosystem comprehensively. In this context, literacy helps business actors increase competitiveness by improving their ability to meet halal requirements and market expectations (Mujiatun et al., 2023; Utomo et al., 2020). Based on this discussion and previous research, the proposed hypothesis is:

H2: Halal product literacy has a significant positive effect on halal industry ecosystem

Promotional Efforts on Halal Industry Ecosystem

Promotional efforts, including marketing communication and branding strategies, can increase awareness, demand, and business participation in the halal industry ecosystem. Effective promotion helps expand markets, introduce new halal products, and encourage innovation in halal tourism and halal food products (Mujiatun et al., 2023). Promotion that integrates Islamic financial literacy, digital innovation, and regulatory support can strengthen the halal industry ecosystem more sustainably (Masood et al., 2025). Government support for the halal industry is also reflected through official government websites, as shown in New Zealand, Singapore, and Australia (Adel et al., 2021). These government-led promotional efforts help legitimize halal products and services and support their mainstream acceptance in the global marketplace. Based on this discussion and previous research, the proposed hypothesis is:

H3: Promotional efforts have a significant positive effect on halal industry ecosystem

Halal Awareness on Halal Industry Ecosystem

Individual consumption, particularly food consumption, is influenced not only by the need to satisfy hunger but also by cultural, religious, and social factors. In the religious context, halal compliance is more than a religious obligation. Adherence to halal principles can ensure safety and also serve as a viable business model (Adekunle & Filson, 2020). Knowledge and positive perceptions of halal products, including halal logistics and services, encourage consumers to pay more for halal products and services. This condition can expand the market and strengthen the halal industry ecosystem (Khan et al., 2020). Furthermore, halal education and literacy increase consumer trust in product authenticity, strengthen supply chains, and reduce information asymmetry in the halal market (Idris et al., 2021). From the perspective of Ecosystem Innovation Theory, halal awareness among producers, supported by religiosity and government incentives, can encourage MSMEs and industrial players to adopt halal practices (Utomo et al., 2020). Based on this discussion and previous research, the proposed hypothesis is:

H4: Halal awareness has a significant positive effect on halal industry ecosystem

Islamic Financing as the Moderator

Islamic financing has been shown to positively contribute to the growth of the halal industry by increasing production, innovation, and financial inclusion, particularly in the MSME sector and halal tourism (Utomo et al., 2020). Financing models such as *mudharabah*, *sukuk*, and Islamic *fintech* provide funding solutions that are fair, transparent, and compliant with sharia principles. These models support inclusive and sustainable growth (Supriadi et al., 2023). From the perspective of Ecosystem Innovation Theory, collaboration among government institutions, financial institutions, business actors, and educational institutions is essential to build an ecosystem that supports the comprehensive growth of the halal industry (Judijanto

et al., 2024). Islamic financing also provides evidence of its influence on the development of the halal industry ecosystem. In developing the Ecosystem Innovation Theory model in this research, Islamic financing is positioned as a moderating variable that may strengthen or weaken the effects of halal certification, halal product literacy, promotional efforts, and halal awareness on the halal industry ecosystem. Based on this discussion, the proposed hypotheses are:

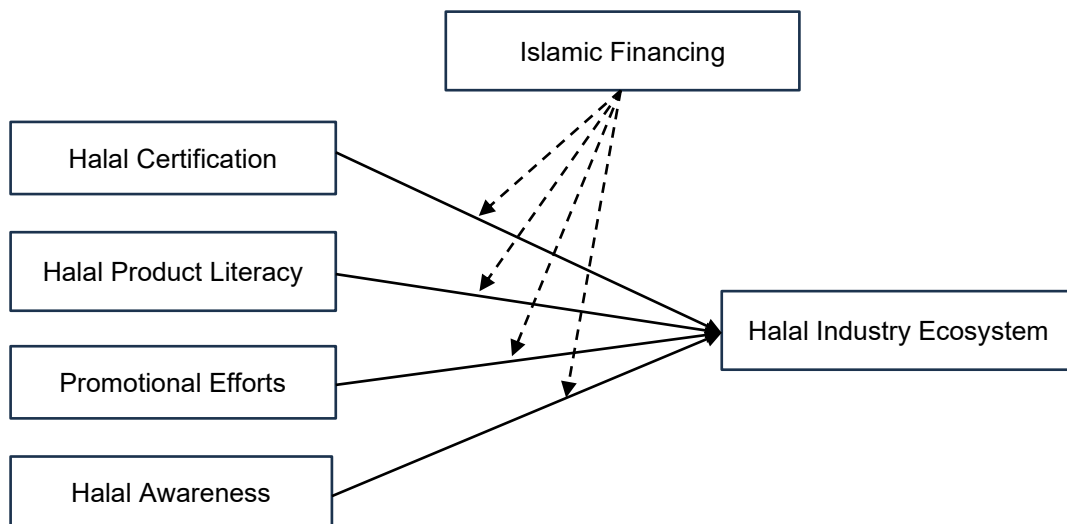
H5: Islamic financing moderates the effect of halal certification on halal industry ecosystem

H6: Islamic financing moderates the effect of halal product literacy on halal industry ecosystem

H7: Islamic financing moderates the effect of promotional efforts on halal industry ecosystem

H8: Islamic financing moderates the effect of halal awareness on halal industry ecosystem

Figure 1. Conceptual Framework



Source: Developed by the authors (2025)

METHOD

This research employs a quantitative explanatory approach to test causal relationships among determinants while considering relevant characteristics (Bentouhami et al., 2021). This approach uses numerical measurement and statistical analysis (Creswell & Creswell, 2018). Data are collected through questionnaire distribution to respondents and measured using a 5-point Likert scale. The primary data consist of questionnaire responses based on indicators or dimensions of the research variables.

The population of this study consists of MSME actors in the Soloraya region. The quantitative explanatory approach is appropriate for testing the proposed hypotheses, which examine the effects of halal certification, halal product literacy, promotional efforts, and halal awareness on the halal industry ecosystem, with Islamic financing as a moderating variable. According to Hair Jr. et al. (2021), an appropriate sample size for this type of research ranges from 100 to 400 respondents. This study employs a purposive sampling technique by targeting 400 MSME actors who have obtained halal certification for their products within the past year. The sample size is determined based on the distribution of MSMEs across each city or regency in the Soloraya area, using specific criteria explained in the sampling technique section.

The data are analyzed using SEM-PLS with several tests, including validity testing, reliability testing, model fit assessment, and hypothesis testing. Furthermore, the operational definitions of the variables are presented in Table 1.

Table 1. Operational Variables

Variable	Statement	Source
Halal Certification	The presence of a halal logo on food product packaging is important.	Jamal Abdul Nassir Shaari & Mohd (2010)
	The halal logo is a consideration for me when purchasing raw materials.	
	I strive to provide halal products to the public.	
	I will be careful when choosing products with the halal logo.	
	I know the authentic halal logo from the Indonesian Ulema Council (MUI).	
	I strive to obtain halal certification for the products I sell.	
	I do not mind the fees charged when applying for halal certification.	
	I do not mind the institution that issues the halal logo.	
	I prefer food products with the halal logo to those without it.	
Halal Product Literacy	I know or understand halal law.	Salehudin (2009)
	I know about halal industrial products or services.	
	I consider the importance of consuming halal products or services.	
	I am able to differentiate and analyze halal and non-halal products or services.	
Promotional Effort	Brochures, posters, or banners are used to promote halal food.	Alfiyandi (2016)
	Halal products are offered directly to consumers.	
	Consumers are encouraged to make a purchase.	
	Product benefits are clearly explained to consumers.	
	Halal products are launched as part of promotional activities.	
	Promotional information is easily accessed through telephone or telemarketing.	
	Promotional information is easily accessed through digital media or digital marketing.	
Consumer programs and company media are used to promote halal products.		
Halal Awareness	Before purchasing a food product, I will review the manufacturing process.	Ahmad et al. (2013)
	I will not purchase a food product if I am unsure about the manufacturing and slaughtering process, especially if it involves animals.	
	The most important aspect of food manufacturing is that it follows Islamic law.	
	Halal is not only related to animal slaughtering.	
	I understand the meaning of halal and tayyib.	
	Consuming halal food is very important to me.	
Islamic Financing	The financing procedures are easy to understand and do not create difficulties for customers.	Kasmir (2014)

Variable	Statement	Source
	The financing term or tenor is flexible and not burdensome.	
	The risks of Islamic bank financing are lower, and the profit-sharing system offered by Islamic banks is competitive and profitable.	
Halal Industry Ecosystem	A societal lifestyle based on Sharia principles encourages the growth of the halal industry.	Rachman & Syamsuddin (2019)
	The development of halal industry players continues to increase.	
	Regulatory development provides strong opportunities for the growth of supply and demand in the halal industry.	
	The development of information technology, including financial technology and access to financing, supports the growth of the halal industry.	

Source: Compiled by the authors (2025)

RESULT AND DISCUSSION

Validity Test

This iterative process of testing and removing indicators with insufficient loading values (< 0.60) is a standard practice in PLS-SEM analysis to ensure measurement quality. Eliminating indicators with low loadings improves the overall reliability and validity of the measurement model. The removed indicators likely reflected aspects of the constructs that did not correlate strongly with other indicators measuring the same construct. This refinement process helps ensure that the measurement model accurately represents the theoretical constructs examined in this study, namely halal certification, halal product literacy, promotional efforts, halal awareness, and Islamic financing among MSMEs in the Soloraya region.

Table 2. Discriminant Validity Test

Indicator	Islamic Financing	Halal Certification	Halal Product Literacy	Promotional Effort	Halal Awareness	Halal Industry Ecosystem
M11	0.831	0.357	0.234	0.277	0.276	0.515
M12	0.709	0.254	0.414	0.234	0.419	0.308
M13	0.735	0.259	0.491	0.370	0.312	0.325
X11	0.315	0.825	0.126	0.174	0.166	0.459
X12	0.429	0.786	0.193	0.152	0.205	0.440
X13	0.147	0.686	0.147	0.153	0.071	0.411
X23	0.381	0.161	0.856	0.399	0.255	0.445
X24	0.420	0.190	0.887	0.434	0.247	0.498
X31	0.302	0.202	0.371	0.834	0.178	0.435
X32	0.334	0.150	0.434	0.849	0.272	0.456
X42	0.451	0.228	0.300	0.306	0.884	0.298
X43	0.268	0.129	0.172	0.147	0.799	0.132
X44	0.265	0.091	0.200	0.159	0.798	0.205
Y12	0.317	0.496	0.562	0.377	0.204	0.811
Y13	0.367	0.471	0.315	0.423	0.156	0.706
Y14	0.365	0.350	0.379	0.438	0.215	0.719
Y15	0.515	0.286	0.260	0.272	0.241	0.624

Source: Processed data (2025)

The discriminant validity test in Table 2 confirms that the indicators used in this study are appropriate. This can be seen from the cross-loading results, where the Islamic financing indicators, namely M11, M12, and M13, and the halal certification indicators, namely X11, X12, and X13, show higher values in their respective construct columns than in other construct columns. This pattern indicates adequate discriminant validity because each indicator correlates more strongly with its own construct than with other constructs in the model. The higher loadings on their respective constructs demonstrate that these indicators measure the constructs they are intended to represent.

Reliability Test

Table 3 presents the reliability test results of this study. This test determines whether the indicators used in the study can produce consistent results when applied under different conditions. The reliability test was assessed using composite reliability, with a cut-off value of 0.60, and Average Variance Extracted (AVE), with a cut-off value of 0.50.

Table 3. Reliability Test

Construct	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Halal Industry Ecosystem	0.685	0.702	0.808	0.515
Islamic Financing	0.651	0.697	0.804	0.578
Halal Product Literacy	0.684	0.690	0.863	0.759
Halal Certification	0.648	0.654	0.811	0.590
Promotional Effort	0.688	0.689	0.829	0.708

Source: Processed data (2025)

This study presents the reliability test results based on the AVE values, all of which exceed the recommended threshold of 0.50. In addition, the Cronbach's alpha values are above the minimum threshold of 0.60. These results indicate that the research instruments have acceptable reliability and convergent validity. Therefore, the instruments used in this study can produce consistent and stable results, supporting the trustworthiness of the data and the accuracy of the analysis.

Model Accuracy Test

The model accuracy test in this study was assessed by examining the adjusted R-squared value. The results are presented in Table 4. As shown in Table 4, the adjusted R-squared value is 0.601. This indicates that halal certification, halal product literacy, promotional effort, and halal awareness collectively explain 60.1% of the variance in the development of the halal industry ecosystem. Meanwhile, the remaining 39.9% is explained by factors outside the scope of this study. Therefore, the adjusted R-squared value of 0.601 indicates that the model has moderate to strong explanatory power.

Table 4. Model Accuracy Test

Endogenous Construct	R Square	Adjusted R Square
Halal Industry Ecosystem	0.610	0.601

Source: Processed data (2025)

Hypotheses Testing

The test results in Table 5 show that H1, H2, and H3 are supported. Halal certification, halal product literacy, and promotional efforts have a significant positive effect on the development of the halal industry ecosystem. However, H4 shows a different result, indicating that halal awareness has an insignificant effect on the development of the halal industry ecosystem. Furthermore, H5, H6, and H7 examine the moderating role of Islamic financing in the relationships between halal certification, halal product literacy, promotional efforts, and the development of the halal industry ecosystem. Although halal certification, halal product literacy, and promotional efforts directly affect the development of the halal industry ecosystem, the interaction effects involving Islamic financing are not significant. These findings indicate that Islamic financing does not moderate the relationships proposed in H5, H6, and H7. A different result is found in H8, where Islamic financing significantly moderates the relationship between halal awareness and the development of the halal industry ecosystem. This finding suggests that Islamic financing strengthens the effect of halal awareness on the development of the halal industry ecosystem

Table 5. Hypotheses Testing

Hypothesis Path	Original Sample (O)	Sample Mean (M)	STDEV	T Statistics	P Values	Decision
Halal Certification → Halal Industry Ecosystem	0.391	0.392	0.040	9.876	0.000	H1 accepted
Halal Product Literacy → Halal Industry Ecosystem	0.269	0.269	0.045	6.015	0.000	H2 accepted
Promotional Effort → Halal Industry Ecosystem	0.276	0.275	0.043	6.474	0.000	H3 accepted
Halal Awareness → Halal Industry Ecosystem	0.004	0.006	0.035	0.128	0.898	H4 rejected
Halal Certification × Islamic Financing → Halal Industry Ecosystem	0.014	0.012	0.046	0.292	0.770	H5 rejected
Halal Product Literacy × Islamic Financing → Halal Industry Ecosystem	0.049	0.050	0.033	1.512	0.131	H6 rejected
Promotional Effort × Islamic Financing → Halal Industry Ecosystem	-0.031	-0.033	0.040	0.782	0.435	H7 rejected

Hypothesis Path	Original Sample (O)	Sample Mean (M)	STDEV	T Statistics	P Values	Decision
Halal Awareness × Islamic Financing → Halal Industry Ecosystem	0.096	0.095	0.030	3.178	0.002	H8 accepted

Source: Processed data (2025)

Discussion

The results of the analysis show that halal certification has a significant effect on the development of the halal industry ecosystem. Halal certification enhances consumer trust, expands market access, and improves the competitiveness of business actors, particularly MSMEs. These effects strengthen the sustainability and growth of the halal industry (Talib et al., 2017). Halal certification has also been shown to improve firms' operational and financial performance, encourage innovation, and strengthen market performance, especially in the food and beverage industry (Kristanto & Kurniawati, 2025; Makhtum & Faraby, 2024). Therefore, MSMEs need to apply for halal certification while also investing in human resource training to improve their knowledge, skills, and readiness to meet halal standards. These efforts can support the certification process and strengthen halal branding for expansion into global Muslim markets (Wahyuni et al., 2023). The government also needs to provide certification cost subsidies, simplify procedures, offer tax incentives, and organize mass training programs and halal business incubators in each region (Oemar et al., 2023).

The results further indicate that halal product literacy has a significant effect on the development of the halal industry ecosystem. Higher halal literacy strengthens awareness of halal brands and encourages halal product consumption habits. These conditions support market growth and reinforce the halal industry ecosystem as a whole (Rafiki et al., 2023). Collaboration among the government, educational institutions, and industry players is essential to improve halal literacy through education, socialization, and training programs (Utomo et al., 2020). MSMEs also need to educate consumers through clear product labeling, which is important for building trust (Silalahi, 2023). In addition, MSMEs can use halal product storytelling on social media, organize halal education workshops for customers, and build loyal halal consumer communities to create strong word-of-mouth marketing. The government needs to integrate halal product literacy into formal and non-formal education systems (Rafiki et al., 2023).

The analysis also shows that promotional effort has a significant positive effect on the development of the halal industry ecosystem. Effective promotion increases the awareness, attitudes, and preferences of MSMEs toward halal products and services. It also strengthens the intention to use Islamic financial products and expands the adoption of halal products (Mujiatun et al., 2023; Utomo et al., 2020). Promotional efforts play an important role in building a positive image, improving Islamic financial literacy, and promoting financial inclusion in the halal sector (Raimi et al., 2025). MSMEs need to optimize their promotional strategies through digital marketing that highlights halal values, collaboration with Muslim influencers, active participation in international halal exhibitions, and brand storytelling that communicates the authenticity and quality of halal products to the global Muslim market (Fachrurazi et al., 2022). The government also needs to support halal economic diplomacy through trade missions to Muslim countries (Herdiana & Rusdiana, 2022).

In contrast, the results show that halal awareness does not have a positive and significant effect on the development of the halal industry ecosystem. This finding indicates that the level of consumer understanding or concern regarding halal aspects has not directly encouraged the growth and integration of actors within the ecosystem. Therefore, the government needs

to strengthen systemic support through integrated regulations, incentives, infrastructure development, and stronger collaboration among stakeholders.

The results also indicate that Islamic financing does not moderate the relationship between halal certification and the halal industry ecosystem. This finding can be explained through Institutional Theory, which argues that certification as a form of formal legitimacy will not function optimally without institutional support and adequate access to resources. Therefore, the government needs to improve the integration between halal certification policies and access to Islamic financing. This can be done by simplifying procedures, expanding financing access, and providing incentives for certified halal business actors.

Furthermore, Islamic financing does not moderate the relationship between halal product literacy and the halal industry ecosystem. This means that the availability or use of Islamic financing has not significantly strengthened the effect of consumer understanding on ecosystem development. The implication is that the government needs to strengthen the integration between the Islamic financial system and the real sector through more inclusive policies, improved Islamic financial literacy, and easier access to financing.

The findings also show that Islamic financing does not moderate the relationship between promotional effort and the halal industry ecosystem. This means that the intensity or quality of promotion has not been significantly strengthened by Islamic financing in driving ecosystem development. Therefore, the government needs to encourage stronger integration between Islamic financing policies and promotional capacity development, including support for digitalization, branding, and market access.

A different result is found in the moderating effect of Islamic financing on the relationship between halal awareness and the development of the halal industry ecosystem. The results show that Islamic financing strengthens the relationship between halal awareness and ecosystem development. When business actors and consumers have a high level of halal awareness, access to Islamic financing can encourage them to use Islamic financial products more actively and participate more effectively in the halal industry (Utomo et al., 2020). The synergy between halal entrepreneurship and Islamic finance can create a stronger halal ecosystem through sharia-compliant financial instruments, product innovation, and ethical business practices (Raimi et al., 2025). Islamic financing not only provides capital but also supports sustainability, ethical compliance, and comprehensive growth in the halal industry (Napitupulu et al., 2024). Thus, the higher the level of halal awareness and access to Islamic financing, the greater their contribution to the development of the halal industry ecosystem.

CONCLUSION

This study confirms that the development of the halal industry ecosystem is significantly influenced by three main factors: halal certification, halal product literacy, and promotional effort. The results show that halal certification increases consumer trust and business competitiveness. Halal product literacy creates educated consumers who drive demand for quality halal products. Meanwhile, effective promotional efforts increase awareness of and preference for halal products. Another important finding is the role of Islamic financing as a moderator that strengthens the relationship between halal awareness and the development of the halal industry ecosystem. The integration of Islamic financing with halal awareness creates synergy that encourages the active participation of business actors in the halal industry.

The practical implications of this study indicate the need for a collaborative approach among MSMEs, the government, and financial institutions to optimize the development of the halal industry ecosystem. MSMEs need to focus on halal certification, consumer education, and digital promotion strategies. The government needs to provide regulatory support, certification subsidies, and halal literacy education infrastructure. Financial institutions need to develop Islamic banking products that are integrated with halal education and business support. The coordinated implementation of these strategies is expected to create a multiplier effect

through economic growth, job creation, and increased export competitiveness, thereby positioning Indonesia as a leader in the global halal economy.

The limitation of this study lies in its analytical focus, which is limited to three main actors: MSMEs, the government, and financial institutions. Future research is suggested to explore other factors that may influence the development of the halal industry ecosystem more comprehensively, such as digital technology, government regulations, and Muslim consumer behavior.

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