

A Systematic Review of the Socio-Economic Impact of Integrated Halal Assurance Systems on Microfarm Sustainability in Southeast Asia

Dita Novarina Gunawati

Faculty of Animal Science, Madani Indonesia University, Blitar, Indonesia

Luky Amalta

Faculty of Animal Science, Brawijaya University, Malang, Indonesia

Cindy Audina Damayanti

Faculty of Animal of Anima Science, Kanjuruhan Malang, Indonesia

Cesaria Fitri Puspitasari

Faculty of Animal Science, Madani Indonesia University, Blitar, Indonesia

Address: Masjid Street, Kepanjenkidul, Blitar 6617, East Java, Indonesia

Corresponding author: ditanovarinagunawati1@gmail.com

Abstract. *The global halal industry is experiencing exponential growth with a market value of trillions of dollars, creating significant economic opportunities for Southeast Asian countries with large Muslim populations. The micro-livestock sector has unique characteristics that require a specialized approach in the implementation of an integrated halal assurance system, given limited resources, technical capacity and access to technology. The complexity of implementation presents multidimensional challenges covering technical, economic, social and regulatory aspects that require comprehensive analysis to understand the socio-economic impact on the sustainability of micro farms¹. This study aims to analyze the socio-economic impact of implementing an integrated halal assurance system on the sustainability of micro livestock enterprises in Southeast Asia through an integrated legal and business perspective. Systematic literature review using PRISMA guidelines with searches through Google Scholar and Scopus for the period 2020-2025. Inclusion criteria included studies of halal assurance system implementation on Southeast Asian micro farms, socio-economic impact analysis, and integration of legal-business perspectives. Quality assessment using the Mixed Methods Appraisal Tool (MMAT) with systematic data extraction using Microsoft Excel 2021. Of the 321 articles identified, 7 high-quality studies were included with a selectivity rate of 2.2%. The findings show variations in implementation approaches between countries: Indonesia with Law No. 33/2014 and SEHATI program, Malaysia through JAKIM with MS 1500:2019 standard, Singapore via MUIS with strict supervision. Positive social impacts include increased social acceptance, empowerment of women and minority groups, and establishment of collaborative networks such as halal cooperatives. Significant economic impacts include increased consumer confidence, wider market access, and product competitiveness with premium prices of up to IDR 37,500/kg for certified products. Integration of legal-business perspectives creates synergy through ASEAN regulatory harmonization, blockchain technology, and multi-stakeholder collaboration. The implementation of an integrated halal assurance system has a transformative impact on the sustainability of Southeast Asian micro livestock businesses, strengthening the regional halal economy and contributing to the Sustainable Development Goals.*

Keywords: *Business sustainability, Integrated halal assurance system, Micro farms, Socio-economic impact, Southeast Asia*

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*Corresponding author, ditanovarinagunawati1@gmail.com

INTRODUCTION

The global halal industry has experienced exponential growth in the last decade, with a market value projected to reach trillions of dollars and creating significant economic opportunities for countries with large Muslim populations, particularly in the Southeast Asian region. The implementation of an integrated halal assurance system (HAS) has become a strategic instrument that not only ensures compliance with sharia principles, but also acts as a catalyst for sustainable economic development in the micro livestock sector. Research shows that the integration of HAS in an integrated management system can increase consumer confidence and company performance, which has an impact on improving productivity, quality, safety, and financial aspects (Puspaningtyas & Sucipto, 2021). The Southeast Asian region, with countries such as Indonesia, Malaysia, Brunei Darussalam, Thailand, and Singapore, has shown a strong commitment to developing a comprehensive halal ecosystem through various regulatory approaches and national policies tailored to the socio-economic conditions of each country.

The micro-farming sector in Southeast Asia has unique characteristics that require a special approach in implementing a halal assurance system, given the limited resources, technical capacity, and access to technology owned by micro-enterprises. Empirical studies reveal that the implementation of halal risk control at the upstream level of the poultry supply chain can have a positive impact on the industry, including the sustainability of micro farms (Ramli et al., 2020). However, the complexity of implementing a halal assurance system in micro farms presents multidimensional challenges covering technical, economic, social and regulatory aspects. Research in Lombok shows that although halal certification has a positive impact on small and medium enterprises, there are significant barriers in the halal certification process faced by MSMEs, including limited knowledge, understanding and awareness of halal certification rules (Prawiro & Fathudin, 2023).

From a socio-economic impact perspective, the implementation of an integrated halal assurance system has shown transformative potential in strengthening the sustainability of micro livestock businesses through various mechanisms. Economically, halal certification can improve market access, product competitiveness, and economic added value for micro business actors. Research shows that MSMEs that obtain halal certification experience increased consumer confidence and sustainable business

performance (Rahayu et al., 2023). Socially, the implementation of the halal assurance system contributes to community empowerment, increasing human resource capacity, and strengthening social capital at the community level. The integration of green economy practices in the halal supply chain also emphasizes sustainability aspects at every stage of food production, which has positive social implications (Salisu et al., 2025).

The integration of legal and business perspectives in the halal assurance system is key in creating a sustainable business model in the micro livestock sector. A comprehensive regulatory framework, such as the Halal Product Guarantee Law in Indonesia, has changed the paradigm of halal certification from voluntary to mandatory, creating a more structured and systematic halal ecosystem. An evaluation of the sustainability of Indonesia's halal beef supply chain shows the importance of economic, environmental and social aspects in the context of livestock business (Mahbubi & Uchiyama, 2020). Integrated Crops-Livestock System (ICLS) also shows potential in increasing crop and livestock yields while maintaining environmental sustainability, which is relevant to the sustainability of micro livestock enterprises (Swastika et al., 2024).

This systematic review aims to comprehensively analyze the socio-economic impact of implementing an integrated halal assurance system on the sustainability of micro livestock enterprises in Southeast Asia by integrating legal and business perspectives. The novelty of this research lies in its focused examination of how legal and business aspects are integrated into the halal assurance system for micro livestock, a subject that is still rarely explored in the Southeast Asian context. This study will answer three main research questions: how the integrated halal assurance system is implemented in micro livestock enterprises based on national legal and policy frameworks, what are the social and economic impacts of the implementation, and how the integration of legal and business perspectives contributes to strengthening sustainable business models in the micro livestock sector.

LITERATURE REVIEW

Identification of Studies Via Database and Registers

The implementation of an integrated halal assurance system (HAS) has become a strategic instrument that not only ensures compliance with sharia principles, but also acts as a catalyst for sustainable economic development in the micro livestock sector.

Research shows that the integration of HAS in an integrated management system can increase consumer confidence and company performance, which has an impact on improving productivity, quality, safety, and financial aspects (Puspaningtyas & Sucipto, 2021). Based on 321 articles, seven relevant articles were identified, which met the inclusion and exclusion criteria. In formulating the research questions operationally, the PICO (Population, Intervention, Comparison, Outcome) framework. We applied the PRISMA guidelines in conducting study identification, selection, and screening to facilitate systematic tracking of articles found, filtered, and analyzed (Page et al., 2021).

Halal Assurance System Implementation

Halal Assurance System Implementation the implementation of Halal Assurance Systems in the Southeast Asian region has become a strategic instrument in supporting the sustainability of micro-livestock enterprises, especially through an integrated approach that combines legal and business aspects. The region has shown significant progress in harmonizing halal standards, where countries such as Indonesia, Malaysia, and Singapore have developed comprehensive regulatory frameworks to ensure the integrity of halal products (Zailani et al., 2020). Indonesia through the Halal Product Guarantee Agency (BPJPH) has implemented an integrated system with the support of the Majelis Ulama Indonesia (MUI), while Malaysia operates a centralized system through Jabatan Kemajuan Islam Malaysia (JAKIM), and Singapore relies on Majlis Ugama Islam Singapura (MUIS) with strict international standards (Abdul Rahman et al., 2022).

Social Impact

This positive perception helps boost public trust in halal-certified livestock products, thereby strengthening consumer loyalty and opening up new market opportunities. From the perspective of social empowerment and inclusion, this system contributes to enhancing the roles of women and minority groups in micro-livestock enterprises, especially through broader access to training, education, and mentoring facilitated by halal institutions. These inclusive efforts strengthen the capacity of vulnerable groups to actively participate in the halal value chain (Apriliyanto & Hidayati, 2023). Social impact, an integrated halal assurance system contributes to community empowerment, job creation, and strengthening social capital at the community level.

Emphasis on halal integrity in business processes is proven to build consumer trust and strengthen ethical and religious values in society (Susiang et al., 2024).

Economic Impact

Consumer preferences for halal-certified products have created new profitable market opportunities, with research showing that halal certification provides significant competitive advantages for small and medium enterprises through increased consumer trust and corporate image (Apriliyanto & Hidayati, 2023). Halal certification also encourages businesses to implement more hygienic and efficient business practices, so that the products produced meet global standards and can compete in the export market (Susiang et al., 2024). However, on the other hand, certification costs and knowledge gaps are still obstacles, so government support and cross-sector collaboration are needed to expand the benefits of an integrated halal system (Prawiro & Fathudin, 2023).

RESEARCH METHODS

This study uses a systematic literature review (SLR) approach as the main method to collect, review and synthesize research results relevant to the topic that has been determined. The choice of SLR is based on its advantages in providing a structured and unbiased framework, as well as supporting a critical review of the existing literature to answer the formulation of the research problem. By using this method, researchers can conduct a thorough review of various studies from diverse settings and conditions, so as to draw conclusions that are generalizable and applicable (Moher et al., 2009). This study followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, which serve as an international standard for conducting and reporting comprehensive systematic reviews. The application of the PRISMA protocol ensures that all stages of the study—from the design of the literature search strategy, article selection, data extraction process, to the analysis and synthesis stages—are conducted in a systematic and traceable manner. In addition, this approach ensures the transparency of the methods used and makes it easier for this study to be replicated by other researchers in the future (Page et al., 2021).

Search Strategy

In this systematic review, the literature search process was conducted through several leading databases, namely Google Scholar and Scopus. The literature search focused on publications published between 2020 and 2025, the search process was carried

out until July 2025, to ensure the results obtained were the latest findings in this field. Various keyword combinations were used, including: halal, livestock, regulation and consumer. In the Google Scholar database, the search strategy used involved the search keywords: “halal regulation” AND “consumer protection” AND “livestock” AND (‘Indonesia’ OR “Southeast Asia”). For Scopus, the search formulation applied is: (“halal certification” or “halalassurance”) and (“law” or “regulation”) and (“consumer”) and (“livestock” or “meat”) and (‘indonesia’ or “southeast asia”). This approach aims to obtain relevant and comprehensive references by utilizing a variety of keywords and adjusting the search strategy in each database, so that the results obtained can support in-depth analysis of the topics studied.

Data Analysis and Extraction

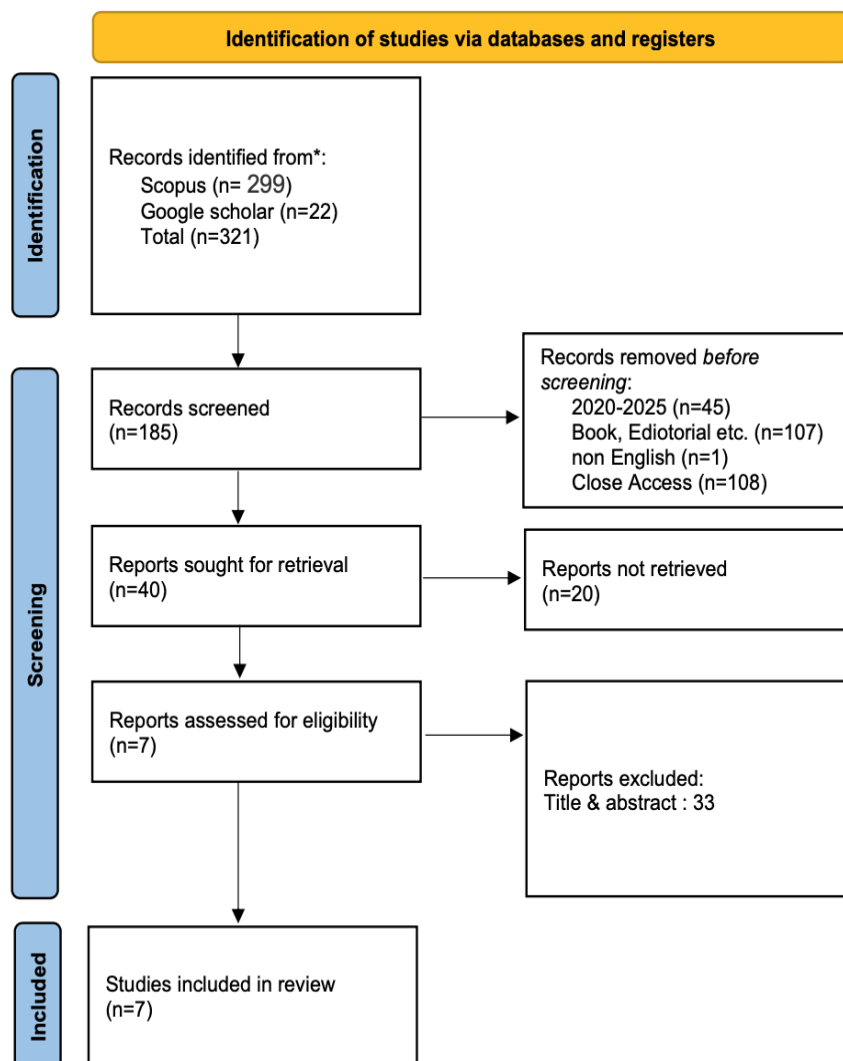
Inclusion criteria in this study include: (1) studies that specifically address the implementation of integrated halal assurance systems in micro livestock enterprises in Southeast Asian countries; (2) studies that analyze the social and economic impacts of implementing halal assurance systems on the sustainability of micro-scale livestock enterprises; (3) studies that examine national legal and policy frameworks related to halal assurance systems in the micro livestock sector; and (4) studies that highlight the integration of legal and business perspectives in the implementation of halal assurance systems in micro livestock. The exclusion criteria consist of: (1) studies that only discuss the technical aspects of animal husbandry without linking to the halal assurance system or socio-economic impacts; (2) studies that focus on the formal livestock sector, large-scale industries, or multinational corporations; (3) studies that do not mention the implementation of the halal assurance system or related regulations in the livestock sector; and (4) studies that do not cover the Southeast Asian region or do not analyze the integration of legal and business perspectives in the context of the sustainability of micro livestock businesses. After duplication of articles was eliminated, one team member reviewed the title and abstract of each article. Next, the eligibility of the articles for inclusion was analyzed by three authors through reviewing the titles and abstracts. The data extraction process was conducted by the three authors using the form on Microsystems.

RESULTS AND DISCUSSION

Based on 321 articles, seven relevant articles were identified, which met the inclusion and exclusion criteria. In formulating the research questions operationally, the PICO (Population, Intervention, Comparison, Outcome) framework was used as shown in Table 1.

Table 1. PICO framework

PICO	Description
P (<i>Population</i>)	Micro livestock enterprises in Southeast Asia
I (<i>Intervention</i>)	Implementation of Integrated Halal Assurance System
C (<i>Comparison</i>)	Livestock business with conventional system / without integrated halal system
O (<i>Outcomes</i>)	Socio-economic impact and business sustainability (legal & business perspective)



We applied the PRISMA guidelines in conducting study identification, selection, and screening to facilitate systematic tracking of articles found, filtered, and analyzed (Page et al., 2021). The methodological quality of the articles that met the selection criteria was then assessed using the Mixed Methods Appraisal Tool (MMAT), which is an assessment instrument to evaluate the methodological validity of different types of studies.

The attached PRISMA diagram demonstrates a comprehensive and rigorous study selection methodology in the systematic literature review on the implementation of integrated halal assurance systems on the sustainability of micro livestock enterprises in Southeast Asia, with the application of the Mixed Methods Appraisal Tool (MMAT) as a methodological quality assessment instrument resulting in an overall screening rate of 97.8%. The literature identification process began with a systematic search strategy through two major academic databases that yielded a total of 321 records, with Scopus contributing as the primary source (299 records or 93.1%) and Google Scholar as the secondary source (22 records or 6.9%), then went through a multilevel screening stage with progressive selectivity: initial elimination of 136 records (42.4% screening rate) based on temporal, publication characteristics, language, and accessibility criteria, followed by a retrieval process that resulted in a 78.4% screening rate (out of 185 records only 40 reports met the criteria), and a final assessment stage using MMAT for critical appraisal that eliminated 13 out of 20 reports (65% screening rate) based on rigorous methodological quality evaluation. The final selectivity rate of 2.2% (only 7 out of 321 initial records) reflects the commitment to methodological rigor and quality of evidence in the systematic review, where the application of MMAT ensures that only studies with adequate methodological quality are included in the analysis, while identifying substantial research gaps in the specific literature on the impact of halal assurance systems on micro livestock enterprises in the Southeast Asian region, which emphasizes the urgency and academic relevance of this research in filling the scientific knowledge gap in the field of regional halal economics with the assurance that the findings are derived from high-quality studies that have passed a rigorous critical appraisal process.

Table 2. General Characteristics of Included Studies

No	Author (Year)	Country	Types of Livestock Business	Focus Study	Research Methods	Perspectives (Legal/Business/Both)
1	Mohd Riza et al. (2022)	Malaysia	Industri daging/kartel daging	Social responsibility in the halal meat cartel issue	Qualitative research, document analysis	both
2	Martinez & Campos (2024)	Filipina	small micro medium enterprises (UMKM) halal sector	Economic feasibility and structural barriers to halal certification	Qualitative research, interviews	both
3	Rachman & Sangare (2023)	Indonesia	small micro medium enterprises (UMKM)	Public-private synergy in halal ecosystem	Descriptive qualitative research, normative juridical approach	both
4	Masri et al. (2025)	Indonesia	General halal products	Halal product guarantee as legal protection for Muslim consumers	Normative juridical research with an empirical approach	Law
5	Lestari et al. (2022)	Indonesia	Meat industry / slaughterhouse	Halal Good Manufacturing Practice assessment model	Quantitative research, AHP and House of Quality Business	Business
6	Priatna et al. (2023)	Asia Tenggara	General halal products	Comparative study of halal policies in Southeast Asian countries	Comparative qualitative research	Law
7	Sudi (2025)	Indonesia, Malaysia, Singapura	General halal products	Halal certification framework and ASEAN harmonization	Comparative qualitative research	Both

Halal Assurance System Implementation

The implementation of Halal Assurance Systems in the Southeast Asian region has become a strategic instrument in supporting the sustainability of micro-livestock enterprises, especially through an integrated approach that combines legal and business aspects. Halal Assurance System Implementation the implementation of Halal Assurance Systems in the Southeast Asian region has become a strategic instrument in supporting the sustainability of micro-livestock enterprises, especially through an integrated approach that combines legal and business aspects. The region has shown significant progress in harmonizing halal standards, where countries such as Indonesia, Malaysia, and Singapore have developed comprehensive regulatory frameworks to ensure the integrity of halal products (Zailani et al., 2020). Indonesia through the Halal Product Guarantee Agency (BPJPH) has implemented an integrated system with the support of the Majelis Ulama Indonesia (MUI), while Malaysia operates a centralized system through Jabatan Kemajuan Islam Malaysia (JAKIM), and Singapore relies on Majlis Ugama Islam Singapura (MUIS) with strict international standards (Abdul Rahman et al., 2022). The socio-economic impact of the implementation of this system on micro livestock enterprises has been positive, especially in terms of increased competitiveness and wider market access. Research shows that halal certification guarantees consumer confidence in the halalness, cleanliness and hygiene of products, which in turn can boost sales levels and turnover for micro-businesses (Noordin et al., 2020). From a legal perspective, the implementation of Law No. 33/2014 on Halal Product Guarantee in Indonesia has changed the certification paradigm from voluntary to mandatory, creating a more structured halal ecosystem (Ministry of Religious Affairs, 2019).

Implementation challenges are still faced, especially regarding the readiness of micro-enterprises to meet the technical requirements of the Halal Product Guarantee System (SJPB), which requires intensive assistance and simplification of procedures (Tieman, 2021). Regional collaboration through the ASEAN Working Group on Halal Food shows the commitment of Southeast Asian countries to strengthen the halal ecosystem through harmonization of standards, training of human resources, and strengthening the halal logistics system (ASEAN Secretariat, 2022). The successful implementation of this integrated halal assurance system not only contributes to the sustainability of micro livestock businesses, but also strengthens Southeast Asia's position

as a global halal economic center that can provide assurance of high-quality halal products for Muslim consumers around the world (Hassan & Awang, 2023). The data on the implementation of the halal assurance system on which this analysis is based is described in Table 3.

Table 3. Implementation of Integrated Halal Assurance Systems in Southeast Asia

Country	Halal Related Policies/Regulations	Certification Bodies/Institutions	Coverage of the Micro Livestock Sector	Forms of Legal and Business Integration	Implementation Challenges
Indonesia	UU No. 33/2014 tentang JPH, UU No. 11/2020 (Cipta Kerja)	BPJPH, MUI, LPH	Mandatory for all products, self-declare scheme for UMK	Integrated system with free facilitation for UMK	Limited infrastructure, low understanding of UMKM
Malaysia	Trade Descriptions Act 2011	JAKIM, JAIN	Voluntary, standard MS 1500:2019	Centralized system with international standards	Fragmentation of enforcement, inconsistency of terminology
Singapura	Administration of Muslim Law Act 1996	MUIS	Mandatory Halal Teams in the company	Integrated system with strict monitoring	Maintaining integrity in a multireligious society
Thailand	Law Number 340/1997 concerning Islamic Organizations	CICOT, Halal Science Center Chulalongkorn	Government support for halal exports	Government -Islamic organization collaboration	Limited capacity, cross-agency coordination
Filipina	Republic Act No. 9997 & 10817	NCMF, 12 certification agency	Focus on Muslim minority regions	Multiagency system with NCMF accreditation	Standardization between certification agencies
Vietnam	There is no specific regulation yet	HAV, HVN, HCA, FOSI	International collaboration for export	Partnership with overseas certification agencies	No national legal framework
Brunei	Wajib untuk sektor makanan	BKMH	Required for food production	Integrated system under Sharia Department	Coverage is limited to the food sector

Social Impact

The implementation of an integrated halal assurance system in the micro livestock sector across Southeast Asia has brought about wide-reaching and profound social effects. Social acceptance of halal certification has continued to grow, as evidenced by the increasing awareness among micro-livestock farmers regarding the importance of halal certification—not only as a fulfillment of religious obligations, but also as a strategy to enhance product competitiveness in the market. This positive perception helps boost public trust in halal-certified livestock products, thereby strengthening consumer loyalty and opening up new market opportunities. From the perspective of social empowerment and inclusion, this system contributes to enhancing the roles of women and minority groups in micro-livestock enterprises, especially through broader access to training, education, and mentoring facilitated by halal institutions. These inclusive efforts strengthen the capacity of vulnerable groups to actively participate in the halal value chain (Apriliyanto & Hidayati, 2023). Furthermore, the implementation of the halal assurance system encourages the formation of social networks and collaborations, such as the emergence of halal cooperatives and associations of halal micro-producers. These collaborations not only strengthen the bargaining position of micro-livestock farmers, but also foster an ecosystem of knowledge and resource sharing that collectively supports the sustainability of livestock businesses at the community level.

Table 4. The Social Impact of Implementing the Halal Assurance System

Author (year)	Social Variables Studied	Social Indicators	Main Findings	Impact (+ / -)	Contextual Notes
Mohd Riza et al. (2022)	Social responsibility, consumer trust	Public trust in halal products	Halal certification as social responsibility to address meat cartel issues	+	Malaysian meat cartel case shows importance of system integrity
Masri et al. (2025)	Perlindungan konsumen Muslim	Consumer legal certainty	Halal assurance system enhances protection of Muslim consumer rights	+	UU JPH provides strong legal certainty
Rachman & Sangare (2023)	UMKM empowerment	Market access, consumer confidence	SEHATI program increases consumer confidence in UMKM products	+	Free program facilitates access for UMKM
Martinez & Campos (2024)	Consumer halal awareness	Consumer preference for halal products	Filipino consumers are willing to pay a premium for certified halal products	+	Demonstrate increased halal awareness

Economic Impact

The implementation of an integrated halal assurance system in micro livestock businesses across Southeast Asia has generated significant economic impacts in various business aspects. In terms of implementation costs and economic benefits, although halal certification for micro-enterprises requires a considerable initial investment, the positive effects on selling prices and profit margins are evident; halal-certified products can be sold at premium prices and production volumes increase due to enhanced consumer trust. Market access and competitiveness have substantially improved, especially in expanding access to local, national, and export markets that were previously difficult for micro-livestock businesses to reach. Consumer preferences for halal-certified products have created new profitable market opportunities, with research showing that halal certification provides significant competitive advantages for small and medium enterprises through increased consumer trust and corporate image (Apriliyanto & Hidayati, 2023). From the perspective of productivity and business efficiency, the implementation of a halal assurance system encourages the adoption of more hygienic and efficient management practices, ultimately enhancing product quality and competitiveness in both regional and

global markets. Studies indicate that halal certification not only benefits logistics but also offers overall business advantages through increased customer trust, added product value, and improved business competitiveness.

Table 5. The Economic Impact of Halal Implementation on Micro Livestock Enterprises

Author (year)	Social Variables Studied	Social Indicators	Main Findings	Impact (+ / -)	Economy-Related Recommendations
Lestari et al. (2022)	Product competitiveness, market access	Increased value-added products	Halal certificate improves competitiveness and global market access	+	Implementation of blockchain technology for traceability
Martinez & Campos (2024)	Willingness to pay consumer	Premium price of halal products	Consumers are willing to pay IDR 37,500/kg for halal chicken meat	+	Streamline the certification process to reduce costs
Rachman & Sangare (2023)	UMKM turnover, national market access	Increased sales	UMKM with halal certificates can market products to national and international levels	+	Strengthening government facilitation programs
Masri et al. (2025)	UMK certification fee	Exemption from certification fees	Job Creation Law waives certification fees for micro and small businesses	+	Expansion of government financing schemes

The integration of legal and business perspectives within the halal assurance system has become a strategic approach increasingly adopted by various Southeast Asian countries to strengthen a sustainable halal ecosystem. This integrated approach combines a comprehensive regulatory framework with innovative business models, creating a synergy between legal compliance and operational effectiveness in the micro-livestock sector. Various empirical studies indicate that the harmonization of ASEAN regulations, the development of MSME business models, and cross-sector collaboration have yielded significant positive impacts on the sustainability of micro-livestock enterprises. Recent research has identified key factors such as blockchain technology, government facilitation, SEHATI programs, and cross-sector coordination as primary supporting elements in the creation of an integrated halal ecosystem. However, challenges such as differing interpretations of sharia, limited supervisory capacity, and implementation complexities remain obstacles that must be addressed through collaborative approaches involving all stakeholders, as outlined in the following comprehensive analysis.

Table 6. Integration of Legal and Business Perspectives in the Halal Assurance System

Author (year)	Legal Aspects Discussed	Business Aspects Involved	Form of Integration	Impact on Business Model	Supporting or Inhibiting Factors of Integration
Sudi (2025)	Harmonization of ASEAN regulations	Cross-border trade	Mutual recognition agreements	Reduces regional trade barriers	Support: Blockchain technology; Inhibition: Differences in sharia interpretation
Masri et al. (2025)	Halal Product Assurance Law (UU JPH), consumer protection	UMKM business model	Self-declare scheme for UMK	Facilitates certification access for UMKM	Support: Government facilitation; Inhibition: Limited supervision capacity
Rachman & Sangare (2023)	Synergy of institutions	Integrated halal ecosystem	Government-private-university collaboration	Strengthens sustainable business models	Support: SEHATI Program; Inhibition: Cross-sector coordination
Lestari et al. (2022)	HGMP standard	Quality management system	Integration of halal standard with GMP	Improves operational efficiency	Support: Digital technology; Inhibition: Implementation complexity

The development of sustainable business models for halal micro-livestock farming in Southeast Asia has undergone significant evolution through the integration of key strategies that combine technological, policy, and multi-stakeholder collaboration aspects. Various studies indicate that the implementation of blockchain technology, government facilitation programs such as SEHATI, and the development of multi-stakeholder synergies have become the primary foundations in establishing a sustainable micro-livestock ecosystem integrated with the halal assurance system. Empirical findings from multiple studies identify key elements such as production efficiency, food safety, market access for UMKM, economic empowerment, and regulatory harmonization as determining factors that contribute to the sustainability of micro-livestock enterprises. Nevertheless, challenges such as the digital divide, limited supervisory capacity, and the complexity of cross-sectoral coordination still require a holistic approach to maximize positive impacts on the Sustainable Development Goals (SDGs). A comprehensive analysis of this business model synthesis provides in-depth insights into how the

integration of legal and business perspectives can enhance the sustainability of the halal micro-livestock sector, as illustrated in the following table.

Table 7. Synthesis of Sustainable Business Models in Halal Micro Livestock Farming

Author (year)	Key Strategies Implemented	Elements of Sustainability (Economic, Social, Environmental)	Business Outcome	Policy Recommendations	Relevance to SDGs
Lestari et al. (2022)	Implementation of HGMP, blockchain technology	Economic: Production efficiency; Social: Food safety; Environmental: Animal welfare	Increased performance of slaughterhouse	Strengthening integrated halal standards with technology	SDG 2 (Zero Hunger), SDG 12 (Responsible Production)
Rachman & Sangare (2023)	SEHATI Program, multi-stakeholder synergy	Economic: Access to UMKM market; Social: Economic empowerment; Environmental: Sustainable production	Increase in the number of certified halal UMKM	Acceleration of ASEAN halal standards harmonization	SDG 1 (No Poverty), SDG 8 (Decent Work), SDG 17 (Partnerships)
Martinez & Campos (2024)	Streamlining certification, financial support	Economic: Economic feasibility; Social: Access to certification; Environmental: Production standards	Increase in UMKM participation in the halal economy	Regulatory reform and education programs	SDG 8 (Decent Work), SDG 9 (Industry Innovation)
Sudi (2025)	Regional harmonization, digital technology	Economic: Regional trade; Social: Consumer standards; Environmental: Traceability of the supply chain	Strengthening ASEAN's position in the global halal market	Development of unified regional regulatory framework	SDG 9 (Industry Innovation), SDG 17 (Partnerships for Goals)

The implementation of an integrated halal assurance system in micro livestock enterprises in Southeast Asia has significant socio-economic impacts, both from a legal and business perspective. In the context of national policies, each country in the region adopts a different approach according to their institutional structure and socio-economic conditions. In Indonesia, for example, the implementation of the halal assurance system is supported by comprehensive regulations, such as Law No. 33/2014 and the SEHATI

program, which allows access to free halal certification for micro and small businesses (Prawiro & Fathudin, 2023). Meanwhile, Malaysia through JAKIM and Singapore through MUIS have developed strict standards and controls to ensure halal integrity throughout the supply chain (Ramli et al., 2020). The main challenges faced by micro livestock UMKM include limited knowledge, administrative complexity, and certification costs that are still considered burdensome, so simplification of procedures and increased education for business actors are needed (Prawiro & Fathudin, 2023).

Social impact, an integrated halal assurance system contributes to community empowerment, job creation, and strengthening social capital at the community level. Emphasis on halal integrity in business processes is proven to build consumer trust and strengthen ethical and religious values in society (Susiang et al., 2024). The growth of the halal industry supported by appropriate strategies and policies also encourages community development and the improvement of local economic welfare (Musari, 2024). In addition, the adoption of circular economy principles and digitalization in the halal supply chain further strengthens the sustainability of micro livestock enterprises and supports the achievement of sustainable development goals (Musari et al., 2025).

The economic impact of implementing this system is very pronounced, especially in increasing consumer confidence, expanding market access, and product competitiveness. Research shows that the integration of halal assurance systems in micro business management can improve productivity, quality, safety, and financial results and reduce business risks (Puspaningtyas & Sucipto, 2021). In addition, halal certification also encourages businesses to implement more hygienic and efficient business practices, so that the products produced meet global standards and can compete in the export market (Susiang et al., 2024). However, on the other hand, certification costs and knowledge gaps are still obstacles, so government support and cross-sector collaboration are needed to expand the benefits of an integrated halal system (Prawiro & Fathudin, 2023).

The integration of legal and business perspectives in the halal assurance system is the key to strengthening sustainable business models in the micro livestock sector. Regulatory harmonization, multi-stakeholder collaboration, and the use of technology and Islamic finance have created an ecosystem that supports inclusive and sustainable business growth (Yusup & Sulaiman, 2025). Thus, an integrated halal assurance system

not only improves competitiveness and economic sustainability, but also strengthens social values and business ethics in Southeast Asian communities.

CONCLUSION

This systematic review concludes that the implementation of an integrated halal assurance system significantly improves consumer confidence, market access and competitiveness of micro livestock enterprises in Southeast Asia. The integration of legal and business aspects promotes community empowerment and the strengthening of sustainable business ecosystems, although cost, knowledge and administrative challenges remain key barriers. This study enriches the literature by identifying patterns of socio-economic transformation and offers a new theoretical framework that combines legal, economic and business dimensions in the halal context. Practically, the results encourage the government and stakeholders to strengthen regulatory harmonization, expand facilitation programs, and improve education for UMKM. Research limitations include limited data coverage and uneven geographical focus. Further research is recommended to explore the long-term impact and compare the effectiveness of implementation models between countries in the ASEAN region.

REFERENCES

- ASEAN Secretariat. 2022. ASEAN strategic action plan for SME development 2016-2025. ASEAN Secretariat.
- Abdul Rahman, A., Singhry, H. B., Hanafiah, M. H., & Abdul, M. 2022. Influence of perceived benefits and traceability on the readiness for halal assurance system implementation among food manufacturers. *Food Control*. 73: 154-166.
- Apriliyanto, N., & Hidayati, N. 2023. Nexus between halal certificate, competitive advantage, and entrepreneurial orientation: Evidence from food and beverage SMEs. *Journal of Enterprise and Development*. 5(1): 99-112.
- Hassan, M. H., & Awang, K. W. 2023. Halal certification and supply chain management: A systematic literature review. *Journal of Islamic Marketing*. 14(2): 445-468.
- Kementerian Agama RI. 2019. Implementasi Undang-Undang Nomor 33 Tahun 2014 tentang Jaminan Produk Halal. Direktorat Jenderal Bimbingan Masyarakat Islam.
- Lestari, F., Mawardi, M., Yola, M., Muda, Y., & Abdul Hamid, A. B. 2022. A model for assessment of Halal Good Manufacturing Practice in meat industry. *Production &*

Manufacturing Research. 10(1): 666-695. <https://doi.org/10.1080/21693277.2022.2117742>

- Mahbubi, A., & Uchiyama, T. 2020. Assessing the sustainability of the Indonesian halal beef supply chain. *International Journal on Food System Dynamics*. 11(4): 295-310.
- Martinez, J. M., & Campos, K. P. 2024. Philippine Halal Certification: Economic viability and structural barriers. *Community Development Journal*. 8(3): 409-413
- Masri, E., Irianto, S., Masriani, Y. T., & Falah, S. M. S. 2025. Halal Product Assurance as Legal Protection for Muslim Consumers in Indonesia. *Al-Ahkam*. 35(1): 205-234
- Mohd Riza, N. S., Md Ariffin, M. F., Hamdan, M. N., & Ramli, N. 2022. Halal food: A social responsibility on cartel meat issue in Malaysia. *Food Research*. 6(3): 92-100. [https://doi.org/10.26656/fr.2017.6\(3\).277](https://doi.org/10.26656/fr.2017.6(3).277)
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. 2009. Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*. 6(7) e1000097. <https://doi.org/10.1371/journal.pmed.1000097>
- Musari, K. 2024. Driving sustainable supply chain and digitalization in the halal industry: Evidence in ASEAN-5. *Strengthening Sustainable Digitalization of Asian Economy and Society*. 45-62.
- Musari, K., Mahmudah, M., Hakim, Z., & Almunawar, M. N. 2025. Mapping the implementation of circular economy and reverse logistics in the sustainable halal supply chain: Evidence in ASEAN-3. *Sustainable Advanced Manufacturing and Logistics in ASEAN*. 78-95.
- Noordin, N., Noor, N. L. M., Hashim, M., & Samicho, Z. 2020. Value chain of halal certification system: A case of the Malaysia halal industry. *European and Mediterranean Conference on Information Systems*. 15: 1-14.