

Navigating Halal Certification Costs and Pricing Strategies among Small-Scale Food Operators: A Systematic Mapping Study

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Abstract

This study aims to systematically map and synthesize the development of research concerning halal certification costs and pricing strategies among small-scale halal food operators. The study employs a Systematic Literature Review (SLR), systematic mapping study, and bibliometric analysis of 336 Scopus-indexed journal articles. The literature selection process follows the PRISMA framework, while VOSviewer, Microsoft Excel 365, Mendeley, and Publish or Perish are used to identify research trends, keyword relationships, thematic clusters, and emerging research directions. The findings indicate that halal food research has evolved from a primary focus on religious compliance toward broader issues involving halal certification, halal supply chains, consumer trust, market access, competitiveness, pricing, and business sustainability. The mapping further reveals that certification generates both economic benefits and financial burdens for small-scale operators. Certification can strengthen consumer trust, product credibility, market access, and competitive positioning, but certification fees, administrative requirements, documentation, process adjustments, and other compliance costs may increase operating costs and create pressure on pricing decisions. The study identifies a critical trade-off between halal compliance, producer profitability, and consumer affordability. It further highlights the importance of institutional support, cost-efficient certification mechanisms, digitalization, and self-declared certification in reducing compliance burdens while maintaining credibility and accountability. The study contributes to the halal economy literature by proposing an integrated perspective linking halal certification costs, production costs, pricing strategies, consumer affordability, market performance, and business sustainability. Future research should empirically examine the economic return of halal certification, consumer willingness to pay, the effectiveness of government subsidies, and differences across business scales and institutional contexts.

Keywords: halal certification; certification cost; small-scale food operators; MSMEs; pricing strategy; consumer affordability; halal food; systematic mapping study

Introduction

The halal food industry has experienced significant growth in response to increasing consumer awareness of halal requirements, ethical consumption, and the expansion of Muslim consumer markets globally. Halal certification has become an important mechanism for providing assurance regarding the halal status, safety, quality, and integrity of food products. Beyond religious compliance, halal certification can also function as a market-access instrument that strengthens consumer trust and enhances the competitiveness of halal businesses. However, the benefits of certification are not

necessarily distributed equally across business scales, particularly among micro and small food operators that operate with limited financial, managerial, and technological resources (Tieman, 2011; Soon et al., 2017).

For small-scale halal food operators, certification can create a strategic dilemma between compliance and affordability. On the one hand, halal certification may improve product credibility, facilitate access to wider markets, and strengthen competitive positioning. On the other hand, the costs associated with certification, documentation, auditing, laboratory testing where applicable, process adjustments, and maintaining halal assurance systems can represent a relatively substantial burden for micro and small enterprises. This issue is particularly relevant because small businesses generally have more constrained access to finance and lower economies of scale than larger firms (Beck & Demirgüç-Kunt, 2006). Consequently, certification costs may influence production costs and ultimately affect pricing decisions.

The relationship between halal certification and pricing is therefore not merely an operational issue but also an economic and strategic concern. Small-scale food operators must determine whether certification-related expenditures can be absorbed internally, transferred to consumers through higher prices, or offset through improvements in production efficiency and market expansion. Increasing prices to compensate for certification costs may reduce the affordability of products and potentially weaken demand among price-sensitive consumers. Conversely, maintaining low prices without adequately managing certification and compliance costs may reduce profit margins and threaten business sustainability. This creates a balancing challenge between halal assurance, business viability, and consumer affordability.

The challenge becomes more complex in the context of micro, small, and medium enterprises (MSMEs), which constitute an important component of employment, income generation, and local economic development. Research on halal entrepreneurship indicates that halal requirements can provide opportunities for market differentiation and competitive advantage, but businesses may simultaneously encounter institutional, financial, knowledge, and certification barriers (Hassan & Pandey, 2013; Nawai & Shariff, 2013). For smaller food operators, these barriers may become more pronounced because the fixed costs of compliance can represent a larger proportion of total operating costs than they do for larger enterprises. Therefore, the economic implications of halal certification need to be examined not only from the perspective of regulatory compliance but also from the perspectives of cost structures, pricing strategies, market access, and enterprise sustainability.

From a consumer perspective, affordable pricing is equally important. Halal consumers increasingly expect products to meet religious requirements while remaining accessible in terms of price, quality, and availability. Halal certification consequently operates within a broader value proposition in which consumers evaluate not only the halal status of products but also their perceived quality, trustworthiness, price, and overall value. Previous studies have demonstrated that halal certification and halal labels can influence consumer confidence and purchasing decisions, particularly when consumers perceive certification as a credible signal of product assurance (Aziz & Chok, 2013; Lada et al., 2009). Nevertheless, a price increase resulting from certification costs may create a potential trade-off between the assurance provided by certification and consumers' willingness or ability to pay. This issue is particularly important for developing economies and local halal food ecosystems, where micro and small enterprises play a substantial role in supplying everyday food products. The sustainability of these enterprises depends on their ability to comply with halal standards while maintaining economically viable operations. Accordingly, the question of how small-scale halal food

operators balance certification costs with affordable pricing represents an intersection between halal governance, SME competitiveness, consumer behavior, and sustainable economic development. Understanding this intersection is necessary for identifying whether halal certification functions primarily as a cost burden, a strategic investment, or a combination of both depending on business characteristics and market conditions.

Despite the growing literature on halal certification, halal supply chains, consumer behavior, and halal entrepreneurship, the specific relationship between certification costs and affordable pricing among small-scale halal food operators remains insufficiently consolidated. Existing studies tend to emphasize consumer perceptions, halal purchasing behavior, certification adoption, or supply-chain integrity, while relatively less attention has been devoted to how small food operators manage the economic consequences of certification and translate these costs into pricing decisions. This fragmentation creates an important research gap that requires systematic examination of the existing literature.

Therefore, this study employs a Systematic Literature Review (SLR) combined with a systematic mapping study to examine the development, themes, relationships, and research gaps concerning small-scale halal food operators, halal certification costs, and affordable pricing. Systematic literature review provides a structured approach for identifying, evaluating, and synthesizing relevant scientific evidence, while systematic mapping enables the broader classification of research according to themes, concepts, methods, and emerging research directions (Donthu et al., 2021; Zupic & Čater, 2015). Through bibliometric and thematic mapping, this study seeks to identify the dominant research themes, relationships among key concepts, and areas that remain underexplored in the literature.

The analysis focuses particularly on the intersection of halal certification costs, MSME sustainability, market access, competitiveness, and pricing strategies. The findings are expected to provide a structured understanding of how previous studies have conceptualized the economic challenges faced by small-scale halal food operators and to identify opportunities for future research. In addition, the study may contribute to the development of a more integrated research agenda that considers halal certification not only as a religious and regulatory requirement but also as an economic factor affecting business sustainability and consumer affordability.

Ultimately, examining the balance between certification costs and affordable pricing is important for developing a more inclusive halal food ecosystem. Policies and certification mechanisms that improve compliance without disproportionately increasing the financial burden on small-scale operators can potentially strengthen participation in the halal market while preserving consumer access to affordable food products. The systematic mapping of existing research therefore provides an important foundation for understanding the current state of knowledge and formulating future research directions concerning small-scale halal food operators balancing certification costs and affordable pricing.

Research Method

This study employs a Systematic Literature Review (SLR) and a systematic mapping study to comprehensively analyze Scopus-indexed articles, with the aim of reviewing and synthesizing previous research concerning the challenges faced by small-scale halal food operators in balancing halal certification costs and affordable pricing. The SLR approach is employed to ensure that relevant

literature is systematically examined to address the research questions, identify research gaps, and formulate directions for future research (Donthu et al., 2021).

To enhance transparency and rigor in the article selection process, this study adopts the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework. The PRISMA framework involves systematic stages of identification, screening, eligibility, and exclusion of relevant publications (Sahoo, Saraf, & Uchil, 2024). Through these stages, the study methodologically filters the most relevant literature, thereby providing a more accurate and reliable representation of the current state of research and potential opportunities for future investigation (Wiranatakusuma, Aprizal, & Kamil, 2024).

The study analyzes 336 Scopus-indexed journal articles using a qualitative approach that combines systematic literature review and systematic mapping analysis. A systematic literature review represents a comprehensive methodological strategy for understanding texts, content, and scholarly materials directly related to the research focus (Aprizal et al., 2024). Compared with SLR, a systematic mapping study provides a broader scope by grouping and classifying research findings according to themes, approaches, and research focuses. This approach is also useful for identifying research development patterns and mapping potential directions for future studies (Zultaqawa, Alexandri, & Hardinata, 2019).

A major strength of the qualitative approach in content analysis is its flexibility in interpreting, categorizing, and understanding scientific texts. To address the research questions appropriately, both structured and unstructured textual information are organized through the classification of concepts, themes, and major research subjects (Zuhroh, 2022). Accordingly, this study is able to identify relatively underexplored issues concerning the financial burden of halal certification, the sustainability of micro and small enterprises, and affordable pricing strategies within the halal food industry.

The first stage of the research involves pre-identification of the research questions and study focus through an initial review of previous articles addressing halal food businesses, halal certification, MSMEs, and pricing strategies. The second stage is identification, which involves searching publications in the Scopus database using keywords such as “small-scale halal food operators,” “halal certification cost,” and “affordable pricing.” This search process resulted in 336 articles covering various topics, publication years, and document types.

The third stage is screening, in which publications are filtered based on document type, specifically journal articles; language, specifically English; and topical relevance. This process ensures that the remaining publications are aligned with the objectives of the study. The fourth stage is eligibility, which involves assessing the suitability of the articles based on thematic alignment, title and abstract relevance, publication period, and document quality required for text coding and analysis. Articles that successfully passed the selection process were subsequently included in the fifth stage, namely inclusion, in which the selected articles were downloaded, organized, and used as the units of analysis.

The selected articles were subsequently managed using Mendeley and exported in RIS format for analysis using VOSviewer. In addition, Microsoft Excel 365 and Publish or Perish were employed to generate graphs, research maps, network visualizations, issue trends, and the dominance of specific research themes.

For data analysis, VOSviewer was used to map author networks, keyword co-occurrence, thematic clusters, and relationships among research topics, as well as to visualize the intellectual and thematic structure of the literature (Van Eck & Waltman, 2023). However, because VOSviewer has limitations in classifying research topics according to deeper substantive contexts, further thematic

categorization was conducted using Microsoft Excel 365. This process involved mapping and categorizing key concepts, including halal certification costs, market access, halal MSME competitiveness, and pricing strategies. The resulting classifications were subsequently presented through graphs, thematic maps, and conceptual diagrams to provide a more comprehensive interpretation of the research landscape.

Result and Discussion



Figure 1. Network Visualization of Navigating Halal Certification Costs and Pricing Strategies among Small-Scale Food Operators

The red cluster positions *halal food* as the most dominant and central keyword, closely connected with *religiosity*, *customer satisfaction*, and *food supply*. This indicates that halal food research is not only concerned with compliance with Islamic law but is also examined as a social phenomenon that influences consumer trust, satisfaction, and purchasing behavior. Scopus-indexed studies have shown that religiosity plays a significant role in shaping consumers' attitudes toward halal products and brand loyalty (Wilson & Liu, 2010; Elseidi, 2018). Furthermore, *halal food* is increasingly positioned within broader discussions of food security and global food accessibility (Ali et al., 2019).

The green cluster is dominated by keywords such as *animals*, *animal welfare*, *slaughterhouse*, and *meat quality*, highlighting research attention to the upstream aspects of halal food production. Scopus literature emphasizes that animal welfare and halal slaughtering methods have direct implications for meat quality, food safety, and the international acceptance of halal products (Farouk et al., 2014; Fuseini et al., 2017). This cluster also demonstrates that halal issues are increasingly examined through veterinary science and food regulation perspectives rather than solely through normative religious approaches.

The blue cluster includes keywords such as *controlled study*, *evaluation study*, and *food quality*, reflecting the growing use of experimental and evaluative approaches in halal food research. This development indicates an important shift from predominantly conceptual discussions toward empirical, evidence-based research. Scopus-indexed studies demonstrate that scientific methods are increasingly required to validate claims concerning product quality, food safety, and halal status, particularly in the context of international trade and cross-border food supply chains (Bonne & Verbeke, 2008; Tieman, 2011).

The yellow cluster comprises keywords such as *fluorescence*, *chemical composition*, and *nutritional parameters*, highlighting the growing role of analytical technologies in halal authentication. Scopus-indexed research indicates that techniques including spectroscopy, chromatography, and biosensors are increasingly applied to detect contamination by non-halal ingredients, particularly pork-derived materials, in processed food products (Rohman et al., 2014; Nurazira et al., 2011). This cluster reflects the transformation of halal food research toward sophisticated analytical approaches and high-performance authentication methods.

The purple cluster focuses on *supply chain management*, *halal supply chain*, and *halal logistics*, emphasizing the importance of maintaining halal integrity throughout the entire supply chain, from production to distribution. The literature highlights that failures in maintaining supply chain integrity can undermine consumer trust even when products have already obtained halal certification (Tieman et al., 2012; Khan et al., 2019). This cluster is particularly relevant to small and medium-sized halal food enterprises, which often face resource constraints in implementing comprehensive halal logistics and supply chain management systems.

Overall, the cluster mapping demonstrates that halal food research is inherently multidisciplinary, encompassing socio-religious dimensions, food science, analytical technology, and supply chain management. The prominence of the red and green clusters indicates a strong research focus on halal values, consumer-related factors, and production processes, while the yellow and purple clusters highlight emerging opportunities for further research in halal authentication technologies, supply chain integrity, digital traceability, and sustainable halal governance. These developments suggest that future halal food research should increasingly integrate religious principles with scientific innovation, technological advancement, and sustainable supply chain management.



Figure 2. Overly Visualization of Navigating Halal Certification Costs and Pricing Strategies among Small-Scale Food Operators

Based on the overlay analysis, the dominance of green to yellow tones around keywords such as *halal food*, *food quality*, and *supply chain management* indicates that recent research, particularly during the 2019–2024 period, has increasingly focused on the operational and economic dimensions of halal food businesses, including small-scale operators. This trend reflects a shift in academic attention from predominantly normative discussions of halal toward practical challenges associated with halal certification implementation, particularly among small-scale halal food operators (Tieman, 2011; Ali et al., 2019).

The strong connections among *halal food*, *food supply*, and *customer satisfaction* suggest that small-scale operators face a fundamental dilemma between meeting halal certification requirements and maintaining affordable prices for consumers. Scopus-indexed studies indicate that certification fees, auditing requirements, and adjustments to production processes can impose significant financial burdens on small and medium-sized halal food enterprises, potentially affecting their cost structures and product pricing strategies (Talib et al., 2016; Khan et al., 2019).

The emergence of keywords such as *halal supply chain*, *halal logistics*, and *supply chain management* in more recent research indicates growing attention to supply chain efficiency as a potential strategy for reducing the overall costs associated with halal compliance. Previous studies emphasize that an efficiently integrated halal supply chain can help small businesses reduce operational costs while maintaining halal integrity, thereby creating greater opportunities to offer competitively priced products (Tieman et al., 2012; Ali & Suleiman, 2018).

In addition, the presence of keywords such as *religiosity* and *consumers* indicates that price sensitivity in the halal market is closely associated with consumer religiosity and purchasing preferences. Scopus-

indexed literature suggests that consumers with higher levels of religiosity may demonstrate greater willingness to pay for halal-certified products, whereas more pragmatic consumers tend to place greater emphasis on affordability while still expecting reliable halal assurance (Wilson & Liu, 2010; Elseidi, 2018). This condition creates additional pressure for small-scale operators to balance certification-related costs with competitive pricing strategies.

Furthermore, the emergence of keywords such as *controlled study*, *biosensing techniques*, and *fluorescence* in more recent research suggests a potential future research direction toward the development of low-cost halal authentication technologies. Previous studies have highlighted the potential of rapid detection techniques and biosensor-based methods to provide more efficient alternatives for halal testing, particularly by reducing testing costs while maintaining product assurance and consumer confidence (Rohman et al., 2014; Nurazira et al., 2011).

Overall, the research trend indicates that balancing halal certification costs with consumer affordability has become an increasingly important strategic issue in the recent literature. The research agenda is moving toward the development of more inclusive certification models, efficient halal supply chains, and affordable and adaptable authentication technologies. These developments are particularly relevant for supporting the sustainability and competitiveness of small-scale halal food operators, especially in developing economies where financial and technological constraints may limit their ability to comply with increasingly complex halal assurance requirements.

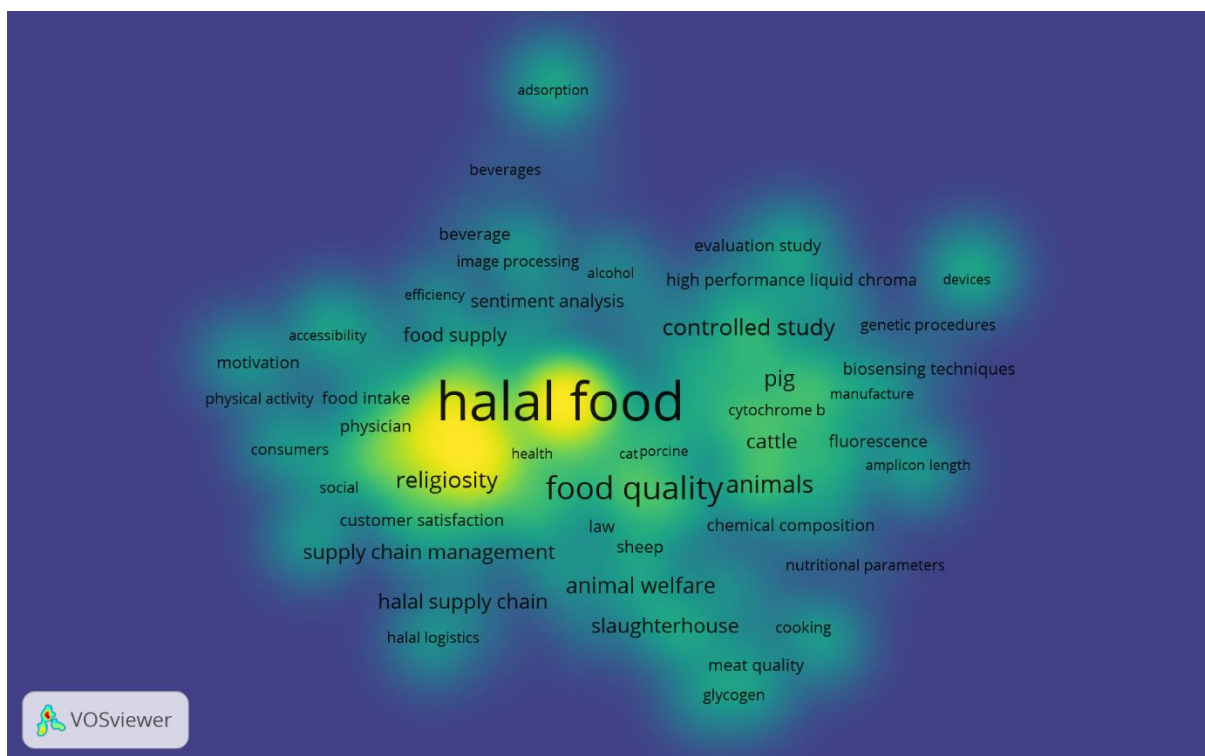


Figure 3. Density Visualization of Navigating Halal Certification Costs and Pricing Strategies among Small-Scale Food Operators

The density analysis indicates that halal food and food quality are among the most prominent themes in research on small-scale halal food operators. The prominence of these keywords suggests that small businesses face a dual requirement: ensuring compliance with halal standards while maintaining product quality and keeping prices affordable for consumers. Halal compliance is therefore not viewed solely as a religious obligation but also as an important factor in building consumer trust,

strengthening market acceptance, and improving the competitiveness of small businesses within the halal food sector (Smith & Ahmad, 2021).

The prominence of terms such as religiosity, law, and supply chain management further indicates that decisions regarding halal certification among small-scale operators are influenced by both societal religious values and regulatory requirements. At the same time, halal certification may create considerable financial implications, particularly for micro and small enterprises with limited access to capital. Certification costs, adjustments to production processes, and the management of halal supply chains can increase operational expenses, creating a dilemma between maintaining halal compliance and keeping product prices affordable for price-sensitive local consumers (Rahman et al., 2022).

The presence of keywords such as consumers, customer satisfaction, and food supply reflects the importance of consumer preferences and satisfaction in shaping pricing and business strategies. Consumers of small-scale halal food products generally expect products that are not only halal and of high quality but also reasonably priced according to their purchasing power. This situation encourages small-scale operators to improve efficiency in raw-material procurement, production processes, and distribution so that the additional costs associated with halal certification are not entirely transferred to consumers (Lee & Chong, 2020).

In addition, production-related terms such as animals, slaughterhouse, and nutritional parameters indicate substantial research attention to the technical dimensions of halal compliance, particularly for animal-based food products. For small-scale operators, meeting these standards may require additional investment in quality control, supplier selection, traceability, and production-process transparency. These requirements can further increase operational complexity and costs, particularly for businesses with limited financial and managerial resources.

Overall, the findings indicate that the key challenge facing small-scale halal food operators extends beyond compliance with halal standards. It involves the ability to balance halal certification requirements, product quality, operational costs, and consumer affordability while maintaining business competitiveness. This condition highlights the importance of supportive policies, more inclusive and affordable halal certification schemes, accessible technical assistance, and stronger halal supply chain systems. Such measures are essential to enable small-scale halal food operators to maintain halal integrity and product quality without compromising business sustainability or the affordability of products for consumers.

Discussion

Evolution of Research on Small-Scale Halal Food Operators

An analysis of 336 Scopus-indexed articles reveals that research on the halal industry has evolved from a focus primarily on Sharia compliance toward broader studies encompassing halal certification, halal supply chains, consumer behavior, consumer trust, market access, competitiveness, entrepreneurship, and sustainability. This evolution demonstrates that "halal" is no longer understood merely as a religious attribute of a product but also as an integral part of economic systems and business strategies. Tieman (2011) explains that halal integrity must be maintained throughout the supply chain, from the sourcing of raw materials to distribution to consumers. This perspective was further expanded by Tieman et al. (2012), who defined the halal supply chain as a system requiring continuous coordination, segregation, traceability, and assurance.

From a consumer perspective, Septiani and Ridlwan (2020) demonstrated a positive relationship between halal certification, halal awareness, and purchase intention regarding halal food products in Indonesia. These findings are reinforced by Ramadhan et al. (2024), who showed that halal certification correlates with purchase intention and brand loyalty within the Indonesian food industry. Thus, halal certification serves an economic function by acting as a mechanism for trust formation and a signal of product credibility.

However, these benefits must be considered alongside the producers' perspective. Fathoni et al. (2025) identified financial constraints, regulatory complexity, and limited awareness as significant barriers for micro and small enterprises in obtaining halal certification. This highlights a tension between the requirement to meet halal standards and the economic capacity of small businesses to bear compliance costs..

Halal Certification as Compliance and Market Assurance

Halal certification serves primarily as an assurance mechanism that informs consumers about a product's compliance with halal requirements. Tieman (2011) emphasizes that halal integrity is not limited to raw materials but must also be maintained throughout storage, transportation, and distribution processes; consequently, certification is inseparable from halal supply chain management.

From a consumer behavior perspective, Septiani and Ridlwan (2020) found that halal certification influences purchase intention by boosting consumer confidence in a product's halal status. Furthermore, Djakasaputra et al. (2023) demonstrated that halal certification, halal awareness, and brand image are factors associated with the intention to purchase halal food products. These findings indicate that certification acts as a market signal, helping to reduce information asymmetry between producers and consumers.

However, Kartikasari and Timur (2026) showed that the relationship between halal certification and purchase intention is not always direct. In the context of viral food products on e-commerce platforms, halal awareness and halal certification play a stronger role in shaping consumer trust, which subsequently serves as a crucial mechanism in explaining purchase intention. These findings suggest that the economic value of certification can manifest through indirect mechanisms, particularly by fostering consumer trust..

Certification Costs as a Financial Barrier

One issue emerging from the literature review is that certification costs act as a barrier for micro and small enterprises. Fathoni et al. (2025) indicate that financial constraints are a primary obstacle to obtaining halal certification. This issue is particularly significant for micro and small enterprises, as the certification costs must be borne by businesses with relatively limited capital, turnover, and production volumes.

Santoso et al. (2021) also demonstrate a link between perceptions of the certification process and costs, and the intention of food and beverage MSME operators to obtain halal certification. This implies that the decision to seek certification is influenced not only by an awareness of the importance of halal status but also by perceptions regarding the associated costs and the procedures that must be fulfilled.

In this context, Maryati et al. (2017) show that food MSME operators face various hurdles during the certification process, including administrative aspects, production facilities, raw materials, and

requirement compliance. Consequently, certification costs should be understood more broadly as the "total cost of compliance," rather than merely the official certification fees.

The Relationship Between Certification Costs and Pricing Strategy

The relationship between certification costs and pricing lies at the heart of the challenges faced by small-scale halal food operators. As compliance costs rise, business owners face several options: absorbing the cost through reduced margins, raising selling prices, improving production efficiency, or expanding market volume.

According to Fathoni et al. (2025), financial constraints are a key factor making the certification process difficult for micro and small enterprises. With low production volumes, certification costs can result in a relatively higher cost per unit, thereby exerting pressure on pricing strategies.

From the consumer perspective, Amriadi and Dahrani (2024) demonstrate that price remains a crucial factor influencing purchase intent for MSME food products. These findings indicate that halal certification does not eliminate consumer price sensitivity. Consequently, business owners face a pricing dilemma: raising prices to cover certification costs may reduce product appeal, whereas maintaining current prices could squeeze profit margins.

Affordable Pricing and Consumer Affordability

In this study, "affordable pricing" is not defined merely as a low price. An affordable price must enable consumers to purchase the product while allowing producers to maintain healthy profit margins.

This concept is best understood through the balance between consumer affordability and producer viability. Septiani and Ridlwan (2020) show that halal certification can boost purchase intention; however, research on consumer behavior also indicates that price remains a critical element in product evaluation. Therefore, the value added by certification must be significant enough to sustain consumer interest in the event of a potential price increase.

In this context, affordable pricing can be positioned as the equilibrium point between:

Halal Compliance → Cost Efficiency → Pricing → Consumer Affordability → Market Demand → Business Sustainability.

Consumer Trust as Economic Value

One of the primary benefits of halal certification is the establishment of consumer trust. Djakasaputra et al. (2023) demonstrate that halal certification and halal awareness are relevant factors in shaping purchase intentions for halal products. Meanwhile, Kartikasari and Timur (2026) indicate that consumer trust can serve as a crucial variable bridging the relationship between halal certification and purchase intention.

Halal Certification and Competitiveness

From a competitiveness perspective, halal certification can serve as a differentiation tool for small businesses. Santoso et al. (2021) show that halal certification offers benefits by fostering certainty, safety, and trust regarding MSME products. Additionally, Djakasaputra et al. (2023) demonstrate that halal certification interacts with brand image and halal awareness to influence purchase intentions.

However, certification does not automatically generate a competitive advantage. Fathoni et al. (2025) point out that MSMEs still face financial and institutional obstacles during the certification process.

This implies that the benefits of certification must be supported by a business's ability to manage marketing, product quality, distribution, packaging, and pricing.

Thus, certification is more accurately positioned as an enabler of competitiveness rather than the sole source of competitive advantage.

Regulatory Complexity and Administrative Burden

Beyond financial expenses, regulatory complexity poses a significant barrier. Fathoni et al. (2025) identify regulatory complexity as a primary obstacle to halal certification for micro and small enterprises. Anggriani et al. (2024) further indicate that the understanding of regulations and the certification process among food SME operators requires strengthening.

These conditions demonstrate that the cost of certification encompasses more than just financial outlays; business operators also face time costs, administrative costs, and opportunity costs. Thus:

Total Cost of Compliance = Financial Cost + Administrative Cost + Time Cost + Opportunity Cost.

This approach is crucial for understanding the situation of micro-enterprises, as business owners often simultaneously manage production, marketing, finance, and administration.

Self-Declared Certification and Affordability

The emergence of self-declared halal certification reflects efforts to improve access to certification for micro and small enterprises. Sucipto et al. (2026) demonstrate that the self-declaration mechanism can help lower cost and procedural barriers for these enterprises.

However, Sucipto et al. (2026) also highlight the need for oversight and governance to ensure that ease of certification does not compromise the system's credibility. This creates a policy trade-off between:

Affordability ↔ Accessibility ↔ Credibility ↔ Accountability.

Therefore, an ideal certification system is not merely affordable and accessible but also capable of providing credible halal assurance to consumers.

Institutional Support for MSMEs

The role of the government and supporting institutions is vital in mitigating certification barriers. Fathoni et al. (2025) emphasize the need for strategies that address financial constraints, regulatory complexities, and limited awareness among micro and small enterprises.

Such support can take the form of certification subsidies, mentoring, education, process digitalization, training, procedural simplification, and facilitated access to halal raw materials. Consequently, certification policies should aim not only to increase the number of certificates issued but also to ensure the economic sustainability of certified SMEs.

Synthesis of Findings

Based on the overall mapping results, it can be concluded that small-scale halal food operators face a dilemma between halal compliance and price affordability. Certification offers benefits by enhancing trust, credibility, market access, and competitiveness (Septiani & Ridlwan, 2020; Djakasaputra et al., 2023; Ramadhan et al., 2024). However, the certification process also imposes financial and administrative burdens, particularly on micro and small enterprises (Maryati et al., 2017; Santoso et al., 2021; Fathoni et al., 2025).

Thus, the core issue is not merely whether halal certification is expensive or inexpensive, but whether the total cost of compliance is proportionate to the business's economic capacity and the economic value generated.

This relationship can be formulated as follows:

Halal Certification → Certification Cost → Production Cost → Pricing Strategy → Consumer Affordability → Consumer Trust/Purchase Intention → Market Performance → Business Sustainability.

This framework demonstrates that halal certification entails a dual economic effect. On one hand, certification increases compliance costs (cost effect). On the other, it can generate trust, market access, and competitive value (value effect). The primary challenge for small-scale halal food operators is ensuring that the value effect outweighs—or at least compensates for—the cost effect.

Therefore, developing an inclusive halal ecosystem requires policies capable of reducing the total compliance burden without compromising credibility and assurance. Such an approach would enable halal certification to serve as an instrument that supports not only compliance but also business sustainability, consumer affordability, and inclusive halal economic development.

Conclusion

This study systematically reviewed and mapped 336 Scopus-indexed articles to examine research on small-scale halal food operators, particularly the challenge of balancing halal certification costs with affordable pricing. Through Systematic Literature Review (SLR), systematic mapping, and bibliometric analysis using VOSviewer, the study identified major themes, relationships, and research gaps. The findings indicate that halal food research has expanded from religious compliance toward broader issues including certification, halal supply chains, consumer trust, market access, competitiveness, pricing, entrepreneurship, and business sustainability. Halal certification provides economic benefits by strengthening consumer trust, product credibility, market access, and competitive positioning. However, small-scale operators face certification fees, administrative requirements, documentation, training, and process-adjustment costs, which are particularly burdensome given their limited financial and managerial resources. A key challenge is the trade-off between certification compliance and price affordability. Certification costs can increase production costs and force businesses to reduce margins, raise prices, improve efficiency, or increase production volume. Higher prices, however, may reduce demand among price-sensitive consumers. Therefore, sustainable halal business development requires balancing halal compliance, certification costs, consumer affordability, and business sustainability. Consumer trust can further transform certification from a compliance burden into a strategic investment. This study has several limitations. It relies exclusively on Scopus-indexed publications, while differences in keywords and terminology may exclude relevant studies. Bibliometric analysis also identifies patterns rather than causal relationships. In addition, certification costs are measured inconsistently across studies, and differences in institutional and geographical contexts limit generalizability. Future research should expand database coverage and conduct empirical testing of the relationships between certification costs, production costs, pricing, consumer affordability, purchase intention, and business performance. Further studies should examine certification's economic returns, consumer willingness to pay, business-size differences, government subsidies, self-declared certification, digitalization, and cross-country certification systems.

Ultimately, future research should develop an integrated sustainable halal SME framework encompassing halal compliance, cost efficiency, affordable pricing, market competitiveness, and business sustainability, supported by coordinated interventions at micro, meso, and macro level.

AUTHOR CONTRIBUTIONS

Conceptualisation, Tri, A.D.; Methodology, , Tri, A.D.; Investigation , Tri, A.D; Analysis, , Tri, A.D.; Original draft preparation, , Tri, A.D.; Review and editing, , Tri, A.D.; Visualization , Tri, A.D.

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CONFLICTS OF INTEREST

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