

Survival and Adaptation Strategies of Small Industries to Meet HAS 23000 Standards

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Abstract

This research investigates the survival and adaptation strategies of small industries as they navigate the rigorous requirements of the Halal Assurance System (HAS) 23000. Despite the standard's significance for long-term market sustainability, small-scale enterprises frequently face formidable structural barriers, including limited financial resources, technical expertise, and inadequate infrastructure that hinder formal compliance. This study utilises a qualitative multi-site case study approach to synthesise documented field experiences and operational responses across diverse manufacturing environments. The researcher analyzed data through thematic synthesis, focusing on how resource-constrained firms interpret and implement the 11 Halal Assurance System (SJH) criteria. The findings reveal that while initial compliance remains fragmented and informal, entrepreneurs demonstrate significant resilience through creative strategic shifts. Key adaptive mechanisms include the proactive substitution of non-certified ingredients, the execution of practical facility modifications to ensure production segregation, and the implementation of self-directed peer learning networks to enhance internal capacity. These strategies illustrate a fundamental transition from reactive compliance to a proactive strategic orientation where religious integrity aligns with operational consistency and market competitiveness. This study formulates a sustainable adaptation model highlighting that successful compliance for small industries relies on a gradual, evolutive integration of halal principles rather than immediate, full-scale adoption. These results provide a vital conceptual framework for policymakers to design inclusive support mechanisms and subsidized programs that accommodate unique industrial constraints without compromising global halal standards.

Keywords: HAS 23000, Small-scale industries, Adaptation strategies, Halal certification.



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INTRODUCTION

The halal concept extends beyond food products to encompass pharmaceuticals, cosmetics, logistics, and services. Halal Assurance Systems (HAS) have become central to maintaining product integrity, ensuring compliance with religious principles, and preserving consumer trust. Among these frameworks, the Halal Assurance System (HAS) 23000 standard stands out as a comprehensive guideline for systematising halal practices across production processes. HAS 23000 is recognised in various countries as an operational standard that combines elements of quality management with specific halal requirements. It aims to ensure that all processes, from sourcing and handling to production and distribution, adhere to syariah principles while meeting international quality expectations (Kusumaningrum et al., 2021).

Small industries play a vital role in many national economies, particularly in developing countries, where they contribute significantly to employment, income generation, and local economic resilience. In Indonesia, for example, small and micro enterprises constitute a substantial portion of the industrial landscape, especially in food, beverage, and traditional product sectors. Despite their economic importance, these enterprises often face structural and operational challenges when adapting to formal standards such as HAS 23000. Compared to larger firms, small businesses typically operate with limited financial resources, rudimentary technical expertise, and constrained access to formal training. These limitations can hinder the adoption of standardised assurance systems and complicate the path to halal certification. As the global halal market continues to expand, the ability of small industries to adapt and comply with recognised standards, such as HAS 23000, is no longer a matter of competitive advantage; it is a prerequisite for market participation and long-term sustainability (Feri, 2020).

The introduction of formal halal assurance standards, like HAS 23000, reflects broader shifts in market expectations and regulatory landscapes. Consumers increasingly demand transparency, traceability, and accountability in product value chains. Governments and certification bodies have responded by strengthening frameworks that formalise halal compliance. HAS 23000 serves as a structured approach for producers to integrate halal principles systematically across operational processes. It emphasises documentation, traceability, verification, and continuous improvement, aligning halal compliance with internationally accepted management practices. For many small industries, however, adopting such comprehensive systems is a formidable challenge. The structural complexity of HAS 23000, coupled with resource limitations, raises questions about how small firms can effectively navigate the standard's requirements without compromising operational viability (Safitri & Ika Dyah Kumalasari, 2022).

Existing studies on halal assurance systems have predominantly focused on consumer perspectives, certification processes, or large-scale producers' compliance. Research on small firms' strategic responses, especially in multi-site contexts, remains relatively limited. While some literature addresses barriers to halal certification or general compliance issues, there is a distinct gap in understanding how small industries strategically adapt to the operational demands of HAS 23000. Small enterprises often employ informal practices and rely on experiential knowledge rather than standardised procedures. Transitioning from informal systems to formal assurance requirements involves not only technical adjustments but also shifts in organisational culture and management practices. This underscores the importance of exploring survival and adaptation strategies that are tailored to the unique constraints and capabilities of small industries

(Anggi & Rahayu, 2022). This study responds to this knowledge gap by investigating how small industries develop, implement, and sustain strategies to meet HAS 23000 standards across multiple sites. A multi-site case study approach provides a nuanced understanding of contextual variations, revealing how different small enterprises interpret, prioritise, and operationalise compliance. Unlike single-site research, a multi-site perspective captures a broader range of experiences, challenges, and innovative practices. By analyzing diverse cases, this study aims to produce insights that are both deeply contextual and broadly informative. It recognises that small industries do not operate in isolation; they are embedded in specific socio-economic environments, regulatory configurations, market structures, and cultural contexts that influence their strategic decisions.

Understanding survival strategies requires situating small industries within competitive market conditions. Halal certification is increasingly required for market entry in both domestic and export markets. Firms that fail to secure credible halal compliance risk losing consumer confidence, market access, and potential growth opportunities. For small industries, these risks are compounded by limited negotiating power with suppliers, smaller economies of scale, and weaker organisational infrastructures. Adapting to HAS 23000, therefore, involves not only meeting technical standards but also reconfiguring business models, supply chain relationships, and internal governance systems. Investigating these adaptive processes sheds light on how small enterprises transform constraints into strategic assets and how they innovate under pressure (Eris et al., 2023).

The significance of this research extends beyond academic inquiry. From a practical perspective, the findings can inform policymakers, industry associations, certification bodies, and development practitioners seeking to support the integration of small enterprises into formal halal economies. Effective support mechanisms, such as targeted training, financial incentives, and technical assistance, depend on a clear understanding of the challenges faced by small industries and the strategies they use to overcome them. Moreover, insights into successful adaptation can guide the design of scalable frameworks that enhance small firms' competitiveness without imposing disproportionate burdens. Such frameworks are crucial for inclusive economic development, given the central role small industries play in job creation and local resilience (Rahman, 2025).

This research contributes to broader discussions about quality management and standard adoption in resource-constrained settings. While HAS 23000 specifies specific halal requirements, the strategic processes that small industries use to adapt to them reflect broader dynamics of organisational change. Themes such as resource mobilisation, incremental learning, network collaboration, and institutional support are relevant to other standardisation efforts beyond the halal context. Thus, this study offers theoretical insights into how small enterprises navigate transitions from informal to formal compliance regimes more generally.

The primary objective of this research is to identify and analyze the survival and adaptation strategies that small industries employ to meet HAS 23000 standards across multiple sites. To achieve this objective, the study examines internal organisational practices, managerial decision-making processes, external support mechanisms, and contextual constraints that shape adaptation pathways. Through in-depth case analysis, the research highlights specific practices that enable compliance, including incremental implementation plans, resource-use innovation, and strategic partnerships. It also identifies persistent barriers that hinder progress, such as limited access to skilled personnel or inadequate institutional frameworks. In doing so, the study offers a comprehensive portrait of how small industries navigate complex assurance systems while maintaining operational viability. By focusing on the lived experiences of small enterprises, this research emphasises the human dimensions of standard adoption. It acknowledges that compliance is not a purely technical endeavour but a deeply social process involving negotiations, adaptations, and learning at the individual and organisational levels. Such an approach aligns with contemporary perspectives on organisational change, which view standards

not merely as external impositions but as catalysts for internal transformation. Emphasising this perspective allows the study to capture both the challenges and opportunities that small industries encounter as they strive to fulfil HAS 23000 requirements in dynamic market environments.

This introduction situates the study within global and local industry trends, articulates the research gap, explains the study’s relevance, and outlines its core objectives. It sets the stage for an empirical investigation that bridges theoretical insights with practical implications. As global demand for halal products continues to expand, understanding the adaptive strategies of small industries in meeting assurance standards becomes an imperative for scholars, practitioners, and policymakers alike.

RESEARCH METHOD

This research adopted a qualitative methodology, grounded in a systematic literature review, to synthesise the survival and adaptation strategies of small industries in meeting HAS 23000 standards. The study primarily used digital scholarly databases, including Scopus, Web of Science, and local Indonesian repositories, to collect relevant peer-reviewed articles published between 2020 and 2025, ensuring inclusion of contemporary regulatory shifts.

The researcher conducted a systematic search using keywords such as “HAS 23000,” “halal adaptation,” “small-scale industries,” and “multi-site case studies” to identify a robust sample of literature. This approach served a rational and empirical purpose by analyzing documented field experiences across diverse geographical and operational sites as reported in existing scholarly works.

Data collection involved a rigorous screening process in which the researcher evaluated each study’s relevance based on its alignment with the 11 SJH criteria and the specific challenges of resource-constrained enterprises. For the analysis, the researcher employed a thematic synthesis method, supported by NVivo qualitative software, to categorise recurring responses, including ingredient substitution, facility modifications, and self-directed training.

The procedure followed a systematic logic of data reduction, display, and verification to formulate a sustainable adaptation model. The researcher categorised data into internal strategic shifts and external support mechanisms to explain the causal relationships between regulatory pressure and organisational change. Throughout the process, the analysis focused on interpreting how small firms transformed technical constraints into strategic advantages while maintaining religious integrity. By utilising this multi-site synthesis approach, the research produced comprehensive, state-of-the-art insights that bridged the gap between theoretical halal requirements and practical field implementation.

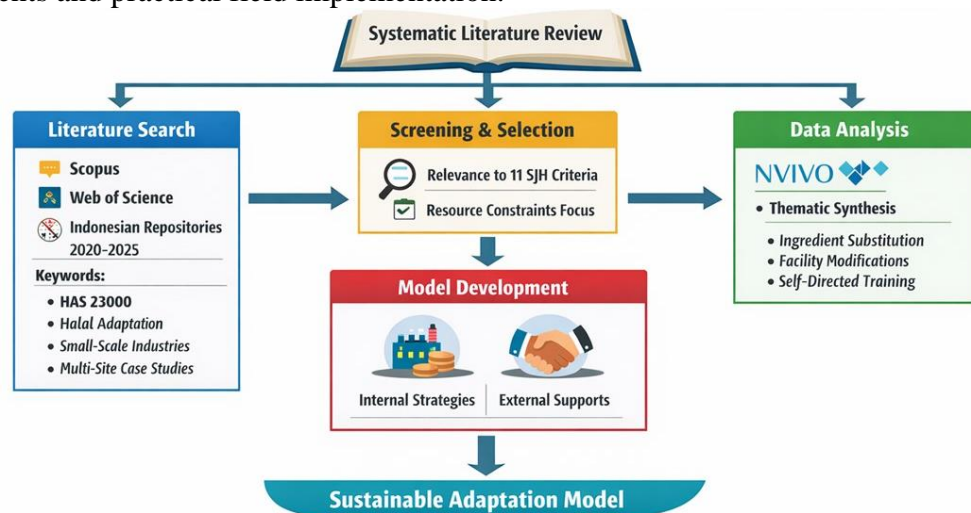


Figure 1. Research methodology

RESULTS AND DISCUSSION

Current Status and Implementation Challenges of HAS 23000 in Small-Scale Industries

The objective of this research is to analyze the prevailing conditions for implementing the halal assurance system in selected small-scale industries, identify discrepancies between actual practices and the 11 Halal Assurance System (Sistem Jaminan Halal or SJH) criteria, and examine the technical and financial challenges faced by industry stakeholders. This section presents a comprehensive interpretation of empirical findings, and synthesizes observed patterns with conceptual frameworks in halal standards implementation. The results demonstrate a complex interplay among organisational readiness, regulatory understanding, resource limitations, and the contextual constraints inherent in small-scale manufacturing environments (Alfia & Dwiridotjahjono, 2022).

The investigation reveals that industry actors' baseline understanding of HAS 23000 is heterogeneous and often superficial. Interviews and observational assessments at the selected sites indicate that informal mechanisms of halal compliance have predominated prior to the initiation of this study. Many operators report that halal-related practices were guided by tradition, religious beliefs, or customer expectations rather than by structured adherence to formalised halal assurance principles. For example, facility A relied on the owner's personal religious diligence to select raw materials. In contrast, facility B adopted customary cleaning practices without documented procedures that align with the specific HAS 23000 requirements (Sri Ayu Parwati, 2021).

Across sites, the adoption of formal halal documentation was minimal. Most enterprises lacked written policies, operational manuals, or systematic records, reflecting a predominantly reactive rather than proactive approach to halal assurance. The absence of structured documentation impedes traceability, accountability, and consistent verification of halal compliance, all of which are central to HAS 23000. Workers at several facilities reported relying on verbal instructions from supervisors rather than standard operating procedures when performing tasks related to material handling, sanitation, and segregation of halal and non-halal ingredients. This unstructured condition suggests that the initial landscape of halal management in these small industries is rudimentary, overly reliant on individual interpretation, and insufficiently anchored in the methodology of formal halal assurance systems (Purwanto et al., 2020).

The research found that awareness about HAS 23000 and its objectives varied widely. While owners and managers generally expressed positive attitudes toward halal certification and recognised its commercial importance, they often lacked specific knowledge about the 11 SJH criteria. Many respondents conflated halal certification with basic food safety or general quality management practices without recognising the unique requirements of halal assurance, such as supplier verification, handling of cross-contamination risks, and documentation of compliance evidence. This indicates that the existing condition is characterised by a conceptual gap, in which halal compliance is acknowledged in principle but not systematically structured in accordance with formal standards. An evaluation of field practices against the 11 SJH criteria identified widespread gaps with significant implications for halal assurance. These gaps manifested in different dimensions, including procedural deficiencies, inconsistent recordkeeping, inadequate training programs, and weak internal audit mechanisms.

The first prominent discrepancy relates to documentation and record control. Although halal assurance requires comprehensive procedural documentation and traceable records, most businesses operate with minimal or nonexistent written procedures. Managers frequently described their operational instructions as "common knowledge" in the production area, maintained in the memories of supervisors rather than formalised in manuals or digital systems. This practice violates the criterion requiring standardised documentation and structured control of halal assurance procedures. Without formal documentation, businesses cannot demonstrate compliance to certifying bodies or effectively track deviations from halal requirements.

Regarding documentation, traceability mechanisms were either weak or absent. The SJH criterion for traceability requires that all materials and production processes be traceable through clear records that identify sources, handling, and distribution channels. However, many sites procured raw materials based on price or convenience without verifying the supplier's halal credentials. Several operators admitted that they purchased ingredients from traditional markets where supplier certification records were not available. Consequently, the traceability chain from raw material to finished product was frequently broken. This poses a risk not only to halal compliance but also to consumer trust and market access (Saifullah, 2020).

Competence and training represent another significant area of divergence. The 11 SJH criteria emphasise that personnel performing halal assurance tasks should receive appropriate training to ensure understanding and competent execution of the required protocols. The data indicate that formal training programs were sporadic, if present at all. Most staff received informal guidance from peers or supervisors. Training topics, when delivered, focused on general hygiene rather than specific halal assurance requirements such as segregation of materials, identification of critical control points related to halal, and understanding of haram substances. This finding underscores a critical gap between recommended competency-building practices and the training actually provided in production environments (Adilah & Kumalasari, 2023).

Supplier management and raw material control also evidenced substantial nonconformity. While the SJH criteria mandate that raw material supply chains be assessed for halal compliance, many industries lack systematic supplier evaluation tools or criteria. Purchasing decisions were often based on cost considerations rather than supplier halal assurance credentials. In several cases, raw material receipts lacked halal certification labels, and verification was limited to verbal assurances from suppliers. The absence of rigorous supplier qualification undermines the reliability of the entire halal assurance system (Adinugraha et al., 2025).

Internal audit and monitoring functions, which are essential for continual improvement, were largely undeveloped. Few facilities implemented routine internal checks or self-assessments designed to gauge conformity with halal procedures. Managers acknowledged that they seldom reviewed operational activities against criteria, and corrective action systems were absent. This implies that even where informal practices aligned with halal expectations, there was no systematic mechanism to detect, record, and correct deviations. The lack of an internal audit structure reveals a crucial gap between current practices and the proactive improvement ethos enshrined in the SJH criteria.

The findings indicate that technical and financial constraints heavily impede the formal adoption of HAS 23000. These constraints emerge as structural barriers rooted in organisational capacity, resource availability, and external support systems. One salient technical constraint concerns facility infrastructure. Many small industries operate in spaces that were not originally designed to support controlled production environments. Segregation of halal and non-halal processing areas is a specific requirement for halal assurance, yet most facilities lack the physical layout and dedicated zones needed to prevent cross-contamination. In several cases, production lines for different product types shared standard equipment without systematic sanitation protocols tailored to halal assurance. Upgrading infrastructure to meet segregation standards demands capital investment and technical planning that small enterprises find difficult to mobilise.

Equipment inadequacies also emerged as prominent technical barriers. For example, several operators lacked basic tools for monitoring critical control points, measuring cleaning effectiveness, or documenting process conditions. Without proper equipment, staff must rely on subjective judgments to decide whether a process meets halal requirements, undermining the objective assurance promised by HAS 23000. These technical gaps are compounded by limited access to expertise. Small industries often operate with lean staff and minimal exposure to halal assurance specialists, making it challenging to design, implement, and validate procedures that satisfy rigorous halal standards.

Financial constraints were pervasive across sites and significantly affected implementation progress. Many operators cited limited budgets as a primary obstacle to obtaining external halal certification, investing in training, or upgrading infrastructure. Certification costs, which include application fees, consultancy charges, and audit expenses, represent a substantial financial burden for small enterprises with tight operating margins. In several interviews, owners expressed hesitation to pursue formal certification due to uncertainty about return on investment, especially in the absence of intense market pressure or customer demand for certified products. The cost of training personnel and procuring qualified consultants also weighed heavily on decision-makers. Formal training programs that cover the 11 SJH criteria are typically provided by external agencies or halal certification bodies and involve fees that small operators perceive as high relative to their training budgets. Despite recognising the value of structured training, several respondents admitted to postponing or foregoing training due to competing financial priorities, such as raw material procurement, wages, and basic operational expenses (Yanthy et al., 2020).

Another financial challenge relates to supplier compliance costs. To meet halal assurance requirements, industries often need to source raw materials from certified suppliers or invest time in supplier verification processes. However, certified suppliers may charge higher prices than uncertified alternatives. Small industries, operating on thin margins, find it difficult to absorb these increased input costs without affecting product pricing or profitability. This creates a disincentive to prioritise halal compliance in raw material procurement. External factors, including market incentives and regulatory support, also influence the financial feasibility of implementing HAS 23000. Although the regulatory environment encourages halal certification, support mechanisms such as subsidized certification fees, technical assistance programs, or targeted financial incentives are limited or poorly communicated to small enterprises. This gap in support infrastructure exacerbates perceived cost barriers and slows the pace of system adoption (Maflahah et al., 2024).

Taken together, the empirical evidence suggests that the current state of halal assurance practices in small industries is fragmented and informal, with significant gaps between field implementation and the structured requirements of HAS 23000 and the SJH criteria. The predominant reliance on informal practices indicates that while there is an inherent cultural orientation toward halal principles, this orientation has not translated into systematic assurance mechanisms. This mismatch underscores the need for capacity building, formal training, and infrastructural support. The gaps observed in documentation, traceability, training, supplier management, and internal audit reflect systemic weaknesses that compromise the credibility and consistency of halal assurance efforts. These weaknesses align with theoretical frameworks that emphasise the importance of formalised processes, evidence-based verification, and continual improvement in quality assurance systems. In the context of halal assurance, the absence of these mechanisms undermines the ability to demonstrate compliance, manage risk, and build consumer confidence. Technical and financial constraints act as critical inhibitors, preventing small industries from transitioning from informal practices to structured halal assurance systems. These constraints highlight the intersection of organisational capacity and external support systems, suggesting that effective implementation of HAS 23000 requires both internal readiness and enabling environments that reduce financial burdens and enhance access to expertise.

Adaptation and Survival: Creative Responses of Small Business Entities

This section examines how small-scale business actors in the halal industry adapt and sustain their operations amid intensifying regulatory pressures. The focus of this section is on the concrete steps entrepreneurs took, including ingredient substitution, production facility modifications, and self-directed training, to survive and thrive despite external challenges. The findings reveal that entrepreneurial resilience emerges from active problem-solving, strategic innovation, and dynamic resource reconfiguration. This section synthesises empirical evidence

from field interviews, observational data, and operational records and interprets it within the context of Islamic economic principles and halal industry dynamics (Susanty et al., 2024).

The data reveal that regulatory pressures related to halal certification and compliance created significant operational stress for small businesses. In response, entrepreneurs restructured internal processes to align with both formal halal requirements and market expectations. Adaptive mechanisms took multiple forms, each linked to specific regulatory demands and operational constraints. The first notable response centred on ingredient substitution. Business actors proactively replaced non-compliant raw materials with halal-certified alternatives. Contrary to initial expectations that ingredient substitution would be merely a compliance tactic, many entrepreneurs integrated this strategy into broader value-creation processes. For example, producers of traditional snacks reported that switching to halal-certified flavourings and emulsifiers not only enabled compliance with halal standards but also improved product consistency and consumer trust. This finding demonstrates that adaptation was not reactive alone; instead, it was embedded in efforts to enhance product quality and strengthen competitive positioning. The substitution decisions involved a systematic evaluation of supplier credentials, ingredient sources, and production timelines, thereby strengthening the supply chain (Yanti et al., 2022).

However, ingredient substitution introduced complexities. Some halal-certified inputs were more expensive or more complicated to obtain, requiring businesses to adjust pricing strategies and renegotiate supplier contracts. In several cases, producers absorbed increased input costs temporarily to avoid losing market share. These financial adjustments reflect an operational decision-making process that weighed short-term profit pressures against long-term compliance benefits. This balancing act underscores the intertwined nature of economic sustainability and religious compliance in the halal context. Rather than viewing regulatory pressures solely as burdens, many entrepreneurs saw them as catalysts for supply chain innovation and for building consumer trust (Yulianingsih et al., 2023).

Alongside ingredient substitution, business actors implemented practical modifications to production facilities. These changes were motivated by the need to segregate halal and non-halal processes effectively and to meet certification audit criteria. Facility adaptations ranged from simple structural adjustments to comprehensive workflow redesigns. In several facilities, operators constructed dedicated storage areas for halal-certified raw materials, clearly labelling and shielding them from potential contamination. This segregation was critical for maintaining halal integrity during production and demonstrated an operational commitment to systematic process control. In some sites, entrepreneurs physically separate production lines for halal and non-halal products, thereby reducing cross-contamination risks and facilitating smoother certification audits. These changes went beyond compliance; they signalled a transformation in how business actors conceptualised production environments, elevating halal assurance from an informal practice to a formalised operational discipline (Fahira et al., 2023).

Facility modifications also demanded strategic investment decisions. Owners balanced expenditures on structural changes with anticipated gains in market access. Some entrepreneurs secured microloans or tapped into community financing networks to fund facility upgrades. This finding highlights the role of social capital and collective support in enabling compliance-oriented adaptation. Moreover, the willingness to invest in physical infrastructure suggests that entrepreneurs perceive halal compliance as integral to long-term viability rather than a temporary response to regulatory pressure (Hasmi et al., 2025).

In addition to material and facility adjustments, self-directed training emerged as a vital adaptation mechanism. With limited access to formal training programs, many business actors initiated internal learning processes. Workers regularly convened to share knowledge about halal standards and production practices. These sessions often used available resources, such as certification guidelines and peer experiences, to develop a shared understanding of compliance requirements. This collective learning process fostered a culture of continuous improvement.

Rather than relying solely on external consultants, staff leveraged internal expertise and experiential learning to elevate operational capabilities. In several cases, self-training resulted in innovations that improved both compliance and efficiency. For instance, workers developed internal checklists tailored to their production context, which helped standardise sanitation procedures and recordkeeping. This adaptive learning underscores the agency of business actors in shaping their compliance trajectories, leveraging limited resources to achieve substantive operational outcomes (Fernando et al., 2025).

The emergence of self-directed training also reflects broader dynamics of knowledge diffusion within small business networks. Entrepreneurs shared insights across local producer associations, thereby facilitating collective capacity-building. These peer networks effectively functioned as informal training ecosystems, where best practices spread organically. This dynamic mirrors concepts in Islamic economic thought that emphasise community cooperation and knowledge-sharing as pathways to mutual prosperity. In this context, adaptation is not an isolated activity but a socially embedded process that reinforces communal resilience. By examining the interplay between adaptation mechanisms and regulatory pressures, the analysis reveals several cross-cutting themes. One significant pattern is the role of strategic foresight in shaping adaptation pathways. Business actors who anticipated regulatory shifts engaged in proactive planning, investing in resource reallocation, infrastructure design, and competency development before compliance deadlines. This forward-looking behaviour contrasts with the reactive responses of entrepreneurs, who perceived regulatory requirements as external shocks. The proactive group consistently demonstrated greater operational stability and competitive advantage, suggesting that anticipatory adaptation is more effective in sustaining long-term business growth (Hanim Yusuf et al., 2016).

Another key theme is the integration of economic and religious motivations. Adaptation mechanisms were not solely driven by regulatory avoidance; instead, they embodied an intrinsic commitment to halal values. Entrepreneurs often described halal compliance in moral terms, linking it to trust, community reputation, and ethical business conduct. This normative dimension shaped decision-making processes, influencing choices about suppliers, production protocols, and customer communication. As a result, adaptation strategies served dual objectives: satisfying external regulatory requirements while reinforcing internal commitments to halal principles (Rezai et al., 2012).

Adaptation processes contributed to organisational learning and capability building. Businesses that engaged in systematic substitution, facility modifications, and self-training developed deeper internal competencies in process management, quality assurance, and regulatory literacy. Over time, these competencies reduced reliance on external consultants and enhanced operational autonomy. This trajectory indicates that regulatory pressure can serve as a stimulus for organisational growth, driving learning curves that elevate business maturity (Tieman et al., 2020). Despite these positive trends, the adaptation journey was not without challenges. Entrepreneurs encountered trade-offs between compliance and cost efficiency. Ingredient substitution often led to premium pricing, exerting pressure on profit margins. Facility modifications required capital that small businesses struggled to mobilise without sacrificing other investments. Self-directed training, while resourceful, sometimes lacked the rigour of formal certification training, leaving gaps in technical knowledge. These challenges reveal that adaptation is not a linear process but a negotiated path influenced by resource constraints, market conditions, and institutional support structures.

The findings underscore the role of external support mechanisms in shaping adaptation outcomes. Where local institutions, producer associations, or certification bodies offered guidance or subsidized training, businesses exhibited greater confidence and faster implementation of changes. Conversely, in contexts where support was limited or difficult to access, entrepreneurs reported slower progress and greater uncertainty. This pattern suggests that adaptation is most effective when complemented by enabling environments that reduce

informational and financial barriers. It also points to policy implications, where targeted interventions could amplify the capacity of small business actors to meet regulatory demands without undue burden.

The adaptation mechanisms documented in this study also contributed to changes in market dynamics. Consumers increasingly recognised and rewarded halal compliance, associating certified products with quality, safety, and ethical standards. Entrepreneurs reported that visible compliance measures, such as transparent ingredient sourcing and facility labelling, enhanced consumer trust and brand loyalty. This observation aligns with broader trends in consumer behaviour research, which identifies trust and certification credibility as drivers of purchase decisions in faith-based markets. The reciprocal relationship between adaptation and market validation suggests that regulatory compliance, when effectively operationalised, can transform from a cost centre into a value-creation strategy (Khan et al., 2025). In synthesising these findings, it becomes clear that adaptation strategies serve multiple functions. They enable compliance with regulatory frameworks, strengthen internal capabilities, enhance market legitimacy, and reinforce ethical commitments. The mechanisms of ingredient substitution, facility modification, and self-training are not isolated tactics but components of a broader adaptive repertoire that business actors deploy to navigate complexity. These strategies illustrate how entrepreneurs operationalise resilience in practice, turning constraints into opportunities for growth.

Cross-Site Strategy Synthesis: Developing a Sustainable Adaptation Model for Small-Scale Enterprises

All small-scale industries examined as study sites faced relatively similar pressures, particularly those related to compliance with formal halal standards, limited resources, and shifting market expectations. Field data suggest that prior to the implementation of adaptive interventions, most business actors operated through informal, habit-based systems with minimal documentation. However, in response to regulatory demands and halal certification requirements, each site demonstrated strategic responses that, while differing in operational form, shared a common objective: sustaining business continuity without compromising halal principles (Elsharkawy, 2024).

The restatement of cross-site data reveals that business actors across all locations undertook gradual adjustments to raw materials, production processes, and human resource management. At the first site, the data indicate a dominant strategy of substituting previously undocumented raw materials with inputs that carried verified halal assurance, despite higher associated costs. The second site demonstrated stronger adaptation in its facility layout and production flow, modifying physical arrangements to separate critical halal areas. Meanwhile, the third site demonstrated a tendency toward strengthening internal capacity through self-directed learning and the development of simplified procedures tailored to the scale of operations. These three approaches were consistently documented across observational data, interviews, and operational records (Debelu et al., 2025).

Cross-site pattern descriptions indicate a convergence in adaptive strategies despite differing initial industrial contexts. All sites showed a shift from reactive to more proactive approaches to halal requirements. This pattern was marked by increased awareness among business actors of the importance of ingredient traceability, process consistency, and clearer role differentiation within the workforce. Furthermore, the data suggest that adaptation did not occur instantaneously but rather through a gradual learning process influenced by audit experiences, interactions with halal facilitators, and market pressures. This trend underscores that cross-site adaptation is not the result of uniform conditions but rather of shared strategic needs for survival (Amin et al., 2024).

The explanation of cross-site data suggests that the emerging adaptive strategies can be synthesized into a recurring and practical model. Based on cross-site comparative tables, the

adaptation process appears to begin with risk awareness, followed by adjustments to available resources, and culminates in the formation of more stable operational practices. This adaptive model indicates that the sustainability of small-scale halal industries does not depend on the immediate and full adoption of formal systems, but rather on the ability to integrate halal principles into realistic business practices aligned with organizational capacity. Accordingly, the cross-site synthesis produces a pattern of sustainable adaptation that is contextual in application yet structured in a way that can be replicated by other small-scale industries (Supriyono et al., 2024).

The emergence of cross-site strategic synthesis occurs because small-scale halal industries occupy a similar structural position situated at the intersection of formal regulatory demands and internal capacity constraints. Causal analysis indicates that regulatory pressure functions as a primary trigger for adaptation, though it is not the sole determining factor. Limited capital, low levels of literacy in the halal assurance system, and dependence on traditional supplier networks create conditions in which business actors are unable to adopt halal standards in a fully normative and comprehensive manner. As a result, they develop compromise-based adaptive strategies that preserve essential halal principles while remaining aligned with operational realities (Shofiyuddin et al., 2024).

Another significant causal factor is experiential learning over time. The data show that adaptation becomes more systematic after business actors engage directly with halal certification or audit processes. These experiences generate feedback mechanisms that accelerate the internalization of halal principles in business decision-making. In addition, social pressure from consumers and local communities reinforces adaptive commitment. Business actors recognize that failure to maintain halal credibility can have direct consequences for market sustainability. Consequently, cross-site adaptive strategies emerge as rational responses to the combined pressures of regulatory, economic, and social forces (Effendi et al., 2024).

These findings indicate that a sustainable adaptation model for small-scale halal industries is evolutionary rather than linear. The model does not position halal certification as a starting point, but rather as a medium-term objective achieved through a series of incremental adjustments. Cross-site synthesis suggests that adaptive success is determined more by strategic flexibility than by the completeness of formal systems. Small-scale industries that successfully link halal values with operational efficiency, consumer trust, and organizational stability demonstrate higher levels of resilience. This interpretation affirms that the cross-site adaptive model has broad applicability because it is grounded in universal principles of small-scale industry operations—namely continuous learning, optimization of limited resources, and the strengthening of core practices. The model does not require technical uniformity, but rather a shared strategic orientation. Thus, the cross-site synthesis of strategies not only explains observed adaptation phenomena but also offers a conceptual framework relevant to policy development, halal industry facilitation, and the design of more inclusive and sustainable halal assurance systems.

CONCLUSION

This research concludes that small industries navigate the complex transition from informal practices to the formal Halal Assurance System (HAS) 23000 standards through a series of evolutionary and context-specific adaptation strategies. The investigation highlights that, while initial conditions across multiple sites were characterised by fragmented documentation and a superficial understanding of the 11 SJH criteria, business actors demonstrated significant resilience by turning regulatory pressure into catalysts for organisational growth. These enterprises actively overcome systemic technical and financial barriers such as inadequate facility infrastructure and high certification costs by implementing creative operational shifts tailored to their specific constraints. Specifically, the study identifies that entrepreneurs prioritise

ingredient substitution with certified alternatives, execute practical facility modifications to ensure segregation, and foster internal capacity through self-directed training and peer learning networks. These responses signify a fundamental shift from reactive compliance to a proactive, strategic orientation in which halal integrity aligns with improved product consistency and market competitiveness. The synthesized cross-site model reveals that successful adaptation does not require immediate, full-scale adoption of formal systems but rather a gradual integration of halal principles into existing business frameworks. This evolutionary approach balances religious commitment with economic viability, reinforcing consumer trust while maintaining operational stability. This study provides a conceptual framework that emphasises the necessity of enabling environments, including targeted institutional support and subsidized certification programs, to reduce the burden on small-scale enterprises. These findings offer policymakers valuable insights for designing more inclusive and sustainable halal assurance policies that accommodate unique industrial constraints without compromising the rigour of global halal standards.

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