

Strengthening Halal Assurance Beyond Certification: A Longitudinal Evidence from a Malaysian Frozen Food Manufacturer

Nurin Darwisyah Mohd Asseri¹, Zakiah Samori^{2*}, Rafeah Saidon³, Nurhayati S.T.P. M.Si.^{4,5}

¹ Kawan Food Manufacturing Sdn.Bhd, Lot 129351, Jalan Sungai Pinang 4/19, Fasa 2C, Taman Perindustrian Pulau Indah, 42920 Pulau Indah, Selangor, Malaysia

^{2,3} Department of Halal Industry Management, Academy of Contemporary Islamic Studies (ACIS), Universiti Teknologi MARA (UiTM), 40450, Shah Alam, Selangor, Malaysia

⁴ Department of Food Business Technology, Universitas Prasetya Mulya, BSD City Kavling Edutown I.1; Jl. BSD Raya Utama, BSD City 15339, Kabupaten Tangerang Banten, Indonesia

⁵ Program Profesi Insinyur, Sekolah Pasca Sarjana UNPAD, Jl. Dipati Ukur No.35, Bandung, Indonesia

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ABSTRACT

This study examines how a Halal Assurance System (HAS) supports post-certification halal governance and continuous improvement in a Malaysian frozen food manufacturer (MFFM). Using a qualitative longitudinal case-study design, the study collected data through semi-structured interviews with three key informants from halal management, operations, and procurement, and triangulated them with internal halal audit records for 2024 and 2025. Thematic analysis was used for the interviews, while audit records underwent qualitative document analysis and descriptive comparison rather than inferential statistical testing. Findings show that HAS was embedded through cross-functional governance, supplier and raw-material verification, employee training, documentation control, internal halal auditing, and corrective and preventive action (CAPA). Internal audit records showed a decline in minor non-conformity reports (NCRs) from five in 2024 to one in 2025. This pattern coincided with targeted CAPA, including strengthened supplier validation, staff retraining, improved record monitoring, and follow-up verification. The NCR reduction is interpreted as a case-specific indicator of improvement in the audited areas, not as conclusive

^{2*}Corresponding author. E-mail address: zakiahsamori@uitm.edu.my

evidence of overall HAS performance. Persistent challenges remained in supplier certificate management, raw-material changes, documentation consistency, and human factors. The study contributes longitudinal, organization-level evidence on how internal audit findings can support organizational learning and continuous improvement after certification. For practitioners, the findings highlight the value of systematic supplier monitoring, competency development, documentation control, CAPA tracking, and follow-up audits. Because the study involves one manufacturer, three informants, and two audit periods, its findings are context-specific and should be tested through broader comparative and mixed-method studies.

1. INTRODUCTION

Halal integrity in food manufacturing depends not only on obtaining certification but also on maintaining effective internal controls after certification. In Malaysia, halal-certified manufacturers operate within established halal standards and certification procedures, while complex sourcing, changing ingredients, employee turnover, and documentation demands create continuing operational risks. A Halal Assurance System (HAS) addresses these risks through internal governance mechanisms such as an Internal Halal Committee, supplier and raw-material verification, employee competency development, documentation control, internal audit, and corrective and preventive action (CAPA) (Mohamed et al., 2021; Talib et al., 2022; Hudaefi, F. A., & Jaswir, I., 2019; Ayyadi, I., & Oulhadj, B., 2024). Although prior studies have examined halal certification, supply-chain integrity, management commitment, and digital traceability, much of the evidence is cross-sectional. Less is known about how a certified manufacturer uses internal audit findings and corrective actions over time to sustain halal integrity. This gap is important because post-certification compliance is dynamic: supplier certificates expire, raw materials change, employees rotate, and operational records require continual updating.

Accordingly, this study examines a Malaysian frozen food manufacturer (MFFM) over 2024-2025. It has three objectives: (1) to examine how HAS is implemented as an internal governance mechanism; (2) to compare documented halal compliance findings across the 2024 and 2025 internal audit periods; and (3) to identify continuing operational challenges and improvement practices that support halal integrity. The study treats changes in NCRs as descriptive, case-specific indicators within the audited areas rather than as a definitive measure of overall organizational HAS performance.

This post-certification perspective is particularly significant in food manufacturing, where halal status can be affected by decisions across procurement, production, quality assurance, warehousing, and documentation. The continuing validity of halal assurance therefore depends on the organization's ability to coordinate these functions and to respond when weaknesses are detected. Internal governance matters because external certification audits occur periodically, while operational decisions and changes occur continuously. A functioning HAS can bridge this temporal gap by translating formal halal requirements into routine organizational controls, monitoring activities, and documented follow-up. This study therefore focuses less on whether the case organization holds certification and more on how it sustains halal integrity after certification through internal governance and learning. The longitudinal comparison is useful in this context because it allows the researchers to examine whether identified weaknesses were followed by corrective responses and whether subsequent audit evidence reflected a more favorable pattern.

2. LITERATURE REVIEW

2.1 Halal Assurance System and Organizational Governance

A Halal Assurance System (HAS) extends halal requirements into day-to-day organizational governance. Beyond formal certification, HAS requires coordinated policies, competent personnel, supplier verification, documentation, internal monitoring, and corrective action to maintain halal integrity across procurement and production (Mohamed et al., 2021; Ali et al., 2022). Management commitment is central because senior leadership allocates resources, establishes accountability, supports the Internal Halal Committee, and reinforces a culture that shares halal responsibility across functions. In this sense, HAS resembles other management systems that rely on systematic planning, implementation, monitoring, and improvement rather than one-time compliance (Talib et al., 2022).

For halal-certified manufacturers, governance capability is particularly important after certification because operational conditions continue to change. Supplier status, ingredient specifications, employee competency, and documentation can all affect compliance. Thus, this study views HAS as an internal governance capability, reflected in how the organization detects weaknesses, responds to them, and learns from subsequent monitoring rather than in certification status alone.

Management commitment provides the organizational foundation for this governance capability. Senior management determines whether halal responsibilities receive adequate authority, resources, and cross-departmental support, while the Internal Halal Committee provides a mechanism for coordinating implementation. Prior halal governance studies indicate that formal procedures alone are insufficient when responsibility is confined to a small halal unit or treated mainly as preparation for external audits (Ali et al., 2022; Iranmanesh et al., 2022). A more mature approach integrates halal considerations into procurement decisions, production controls, staff development, and management review. This integration is consistent with quality-management thinking, in which sustained performance depends on leadership commitment, process ownership, monitoring, and organizational learning. For the present study, management commitment is therefore understood not as a separate outcome variable but as an enabling condition that supports the routine operation and improvement of HAS (Ahmad Nor Komar, N., Mohd Yusof, S., & Abdullah, N., 2024).

2.2 Operational Controls: Suppliers, Competency, Documentation and Digital Support

Operational control translates halal policy into routine practice. Supplier and raw-material control is critical because manufacturers depend on external parties for valid certification, ingredient specifications, and timely change notifications. Continuous supplier monitoring, traceability, and collaboration therefore reduce exposure to upstream halal risks (Handayani et al., 2022; Che Hassan & Osman, 2024). Employee competency is equally important because procedures are effective only when personnel understand halal-critical activities and apply them consistently; ongoing and role-specific training can strengthen this capability (Harun et al., 2021).

Documentation provides evidence of implementation and supports traceability, audit readiness, and follow-up action. Digital systems can strengthen these functions by improving access, monitoring, and information sharing, although their value depends on organizational readiness and staff capability (Rejeb et al., 2022; Khan, 2026; Bag, S., Gupta, S., Kumar, A., & Sivarajah, U., 2023). In the present study, supplier control, employee competency, documentation, and digital monitoring are treated as interrelated operational mechanisms rather than independent determinants of performance.

Supplier governance is especially important because the manufacturer does not directly control all upstream activities. Even with strong internal procedures, expired certificates, incomplete ingredient information, delayed supplier responses, or unreported formulation changes can create uncertainty. Continuous verification is therefore more appropriate than one-time supplier approval. In practice, this requires current supplier registers, clear responsibility for certificate monitoring, documented approval of material changes, and timely communication between procurement and halal personnel. These controls also demonstrate why halal assurance is an inter-organizational issue: the integrity of the final product depends partly on the quality and timeliness of compliance information exchanged across the supply chain (Handayani et al., 2022; Che Hassan & Osman, 2024).

Human competency and documentation control complement supplier governance. Employees in halal-critical activities must understand not only the written procedure but also why a particular control is necessary, especially when operational pressure or staff turnover creates opportunities for inconsistency. Role-specific training, refresher sessions, and documented competency follow-up can reduce dependence on informal knowledge (Harun et al., 2021). Similarly, documentation is not merely an administrative requirement: records provide the evidence needed to trace materials, verify decisions, close CAPA, and demonstrate that control activities occurred. Digital platforms can make these processes more efficient through centralized records, expiry alerts, and faster retrieval, although technology does not replace governance. Its contribution depends on data quality, user discipline, management support, and integration with existing halal procedures (Rejeb et al., 2022; Khan, 2026; Ghobakhloo, M., 2023)

2.3 Internal Halal Audit, CAPA and Continuous Improvement

Internal halal audits provide a structured way to identify deviations from halal procedures and generate evidence for corrective action. Non-conformance reports (NCRs) can therefore serve as learning inputs when organizations investigate causes, implement corrective and preventive action (CAPA), and verify whether actions are effective. CAPA addresses identified problems and seeks to prevent recurrence, consistent with continuous improvement and the Plan-Do-Check-Act cycle (Thakre et al., 2023; Chiarini & Cherrafi, 2023).

However, interpret NCR counts cautiously. A lower count may indicate improvement in the areas audited, but it can also reflect audit scope, audit intensity, classification practices, or changes in operational exposure. Accordingly, this study uses the 2024-2025 NCR pattern as descriptive documentary evidence and triangulates it with interview accounts and documented CAPA rather than treating the count as a standalone measure of overall HAS effectiveness.

The value of an internal audit therefore lies not only in the number of findings produced but also in what the organization does with those findings. When audit observations are linked to root-cause analysis, assigned corrective actions, responsible personnel, completion dates, and verification of effectiveness, the audit becomes part of an organizational learning cycle. This logic parallels the Plan-Do-Check-Act approach: procedures and controls are planned and implemented, internal audits check whether they operate as intended, and CAPA provides the basis for action and refinement. From this perspective, repeated non-conformities may signal weaknesses in corrective-action effectiveness, while successful closure and non-recurrence can provide stronger evidence of improvement than the numerical count alone (Chiarini & Cherrafi, 2023; Thakre et al., 2023). The present study consequently examines the relationship between audit findings, documented corrective responses, and subsequent monitoring rather than treating NCR reduction as an isolated performance metric.

2.4 Research Gap and Analytical Framework

Existing halal research has established the importance of certification, supply-chain integrity, management commitment, employee competency, and technology. Yet empirical evidence remains limited on how these mechanisms operate together after certification and how organizations use internal audit findings to learn and improve over time. Much of the literature is cross-sectional, making it difficult to observe organizational responses to identified non-conformities across successive audit periods (Ali et al., 2022; Talib et al., 2022; Tan, A., Gligor, D., & Ngah, A., 2022).

To address this gap, the study uses an analytical framework informed by the literature and applied to the empirical case: management commitment supports HAS implementation; operational controls cover suppliers, competency, documentation, and monitoring; internal audits identify non-conformities; CAPA responds to identified weaknesses; and follow-up monitoring supports continuous improvement. The framework serves as a sensitizing analytical structure for interpreting the case rather than a statistically tested causal model. This positioning is appropriate because the study is qualitative and does not test relationships among variables.



Figure 1. Proposed integrated halal assurance system performance framework based on researchers' own analysis

The framework was developed from the reviewed literature and used to organize the analysis of the case evidence. It does not claim causal validation; rather, it links the governance mechanisms examined in the interviews and audit documents: management commitment -> operational controls -> internal audit/NCR identification -> CAPA -> follow-up and organizational learning.

This distinction is important because the proposed framework is not presented as a newly validated theory. It synthesizes concepts already discussed in halal governance and quality-management literature and provides an organizing lens for the case. The study's empirical contribution lies in showing how these mechanisms appeared in one organization across successive audit periods. In particular, the study addresses three connected gaps: limited longitudinal evidence on post-certification HAS practices, limited attention to how CAPA and follow-up convert audit findings into learning, and limited case-based evidence on the interaction of supplier, human, documentation, and monitoring controls within a single organizational setting. By narrowing the contribution to these issues, the study avoids overstating the generalizability of a single case while still offering analytically useful evidence for halal management scholarship.

3. METHODOLOGY

3.1 Research Design and Case Study Approach

This study employed a qualitative longitudinal case-study design to examine how HAS was implemented and improved within a halal-certified Malaysian frozen food manufacturer across two audit periods (2024 and 2025). A case-study design was selected because the research focused on organizational processes, decisions, and experiences in their operational context. The longitudinal element enabled comparison of documented internal audit findings and organizational responses across the two periods; it was not intended as statistical longitudinal testing.

3.2 Case Organization and Confidentiality Statement

The case organization is referred to as Malaysian Frozen Food Manufacturer (MFFM) to preserve confidentiality. MFFM was selected purposively because it had an established Internal Halal Committee, documented supplier and raw-material controls, employee halal training, internal monitoring procedures, and internal halal audit records for both 2024 and 2025. The case therefore provided information-rich evidence for examining post-certification HAS practices and continuous improvement.

3.3 Research Participants and Sampling

Purposive sampling was used to select three key informants directly involved in HAS implementation, representing halal management, operations, and procurement. Their roles provided complementary perspectives on governance, operational control, and supply-chain management. The small sample was appropriate for an in-depth organizational case study but limits transferability beyond this setting. Future studies should include larger samples and cross-sectoral comparisons of halal-certified organizations.

3.4 Data Collection Procedures

Data were obtained from two sources: (1) semi-structured interviews with the three key informants and (2) internal halal audit records for 2024 and 2025. Using both sources enabled methodological triangulation.

3.4.1 Semi-Structured Interviews

The interviews explored HAS implementation, the role of the Internal Halal Committee, supplier and raw-material management, employee training, documentation and monitoring, internal audit practices, operational challenges, and continuous improvement. Follow-up questions clarified organizational practices and responses to audit findings.

3.4.2 Document Analysis

The study examined internal halal audit records for 2024 and 2025 through qualitative document analysis. The review focused on the type and number of recorded non-conformities, areas requiring improvement, documented corrective actions, and evidence of follow-up. The two audit periods were compared descriptively to identify patterns of change. No inferential statistical testing was undertaken, and the NCR count was not treated as a comprehensive performance metric.

3.5 Data Analysis

Interview data were analyzed thematically through familiarization, coding, grouping related codes, reviewing themes, and interpreting themes against the research objectives and literature. Documentary evidence was then used to corroborate, qualify, or contextualize interview accounts. Four themes structured the findings: (1) institutionalization of HAS; (2) changes in documented audit findings across 2024-2025; (3) persistent operational and supply-chain challenges; and (4) continuous improvement practices. Because only two audit periods were available, the researchers interpreted changes in NCRs as descriptive case evidence rather than proof of statistically significant or organization-wide improvement.

Several steps strengthened the qualitative analysis's credibility. First, the researchers compared accounts across informants from different functional areas to identify areas of convergence and divergence rather than relying on a single perspective. Second, the researchers checked interview themes against documentary evidence from internal audit records, particularly where participants described corrective actions or changes in monitoring practices. Third, the researchers deliberately kept the interpretation of the 2024-2025 audit comparison descriptive; the study made no inferential statistical claims from the two audit periods. This triangulation strategy enabled the researchers to distinguish between participants' perceptions of improvement and documentary evidence of changes recorded in the internal audit process. Nevertheless, because the study relied on organizational records made available by the case company, the analysis remains dependent on the scope and completeness of those records.

4. RESULT AND DISCUSSION

4.1 Institutionalization of Halal Assurance System: From Certification Compliance to Organizational Governance

The results clearly show that the Halal Assurance System (HAS) used by Malaysian Frozen Food Manufacturer (MFFM) has evolved from a regulatory compliance requirement to maintain halal certification into a complete organizational governance model. The results also show that the HAS is applied across every aspect of the company's operations. Examples include validating raw material sources, creating and managing documentation, providing employee education on halal, conducting internal audits to verify compliance with halal requirements, and implementing corrective action plans as needed. The interviewees stated that while the Halal Department does not solely own responsibility for ensuring the

company complies with all halal requirements, it requires collaboration among several departments within the organization. The Internal Halal Committee (IHC) was critical to sharing information about halal-related responsibilities throughout the organization and to applying those responsibilities. IHC functions include ensuring halal documentation is properly maintained, reviewing suppliers' ability to meet halal requirements, conducting regular internal audits of halal activities, and establishing corrective actions based on audit findings.

The institutionalization of HAS at MFFM can be seen through five key elements:

(i) Halal Policy & Structure for Commitment

The organization established formal halal policies and procedures to guide staff in fulfilling halal obligations at every stage of the production process.

(ii) Internal Halal Committee Role in Governance

The IHC served as a key governance body, coordinating all halal-related activities and overseeing compliance.

(iii) Verification Process for Suppliers & Raw Materials

Procurement procedures included halal-related verification requirements for suppliers to ensure the raw materials received met halal criteria.

(iv) Halal Documentation and Monitoring Practices

Records of halal-related information, such as supplier certifications, production documentation, and audit data, were part of organizational controls.

(v) Employee Participation & Awareness

Staff members working in areas where halal is critical were required to understand their roles in maintaining halal integrity.

The findings support previous studies showing that organizations can achieve halal compliance by shifting from a certification-only model to a more comprehensive, governance-based approach. Mohamed et al. (2024) state that today's food manufacturers need to adopt an integrated management system to preserve the integrity of their halal products, including monitoring suppliers, conducting internal operational reviews, and demonstrating an organizational commitment to halal compliance. Alkharib Shah et al. (2025) note that organizations' preparedness and willingness to commit to halal compliance affect their ability to achieve it. This research adds value to the literature on halal governance by showing that organizations' commitment to halal compliance is reflected in both a formally written halal policy and internal mechanisms such as the Internal Halal Committee and interdepartmental cooperation. The role of the Internal Halal Committee identified in this research supports the notion that halal governance is a shared responsibility among various departments within an organization. Because food manufacturing processes are complex, halal risks can occur at many stages of operations, from purchasing decisions and ingredient modification to processing activities and record-keeping procedures. Assigning halal responsibilities to each department will help increase the organization's capacity to identify and mitigate potential risks. This research also shows that HAS functions like a quality management system, requiring continuous monitoring

and improvement. While many view halal certification as the culmination of the compliance process, MFFM exemplifies a more mature approach to halal compliance, in which ongoing internal processes support certification. This research provides additional data supporting the association between HAS maturity and organizational integration. While many studies have focused on obstacles to achieving halal certification, few have examined how certified organizations incorporate halal practices into daily operations after certification. This research fills that gap by showing that long-term, sustainable halal compliance requires embedding halal principles into the organization's everyday practices. This research also supports the concept of continuous improvement used throughout. The establishment of policies, implementation mechanisms, monitoring activities, and corrective actions employed by HAS at MFFM reflect aspects of the Plan-Do-Check-Act (PDCA) cycle. The organization's approach to achieving compliance improvements through iterative evaluations and refinements shows that compliance improves over time rather than through a single certification event. Therefore, this study first shows that HAS success depends on organizational institutionalization, in which halal principles are integrated into management systems, operational practices, and employees' job roles.

Table 1. Key Elements of HAS Institutionalization at MFFM

HAS Component	Evidence Identified	Organisational Function
Halal policy and procedures	Formal halal guidelines and documentation	Establishes compliance direction
Internal Halal Committee	Cross-functional halal monitoring	Coordinates halal governance
Supplier verification	Monitoring halal certificates and materials	Controls external halal risks
Documentation management	Monitoring halal certificates and materials	Supports traceability and audit readiness
Employee involvement	Awareness and training activities	Strengthens operational compliance

Source: Researcher's own analysis

4.2 Longitudinal Improvement of Halal Compliance Performance: Evidence from Internal Halal Audits (2024–2025)

A primary result of this research was a quantifiable improvement in the organization's halal compliance performance. The organization saw an increase in halal compliance performance when comparing the results of the internal halal audit conducted in 2024 with those of the one conducted in 2025. While most research on halal practices is based on single-point assessments, this study provides empirical evidence that the ongoing use of HAS to continuously assess halal practices has improved the organization's overall compliance performance. The number of Non-Conformance Reports (NCRs) generated during internal halal audits decreased from 2024 to 2025. In 2024, the organization produced five minor NCRs; however, in 2025, the internal halal audit produced only one. These reductions indicate improved management of the organization's halal-related risk exposures and stronger compliance practices.

Table 2. The Comparison of Audit Outcomes

Audit Period	Audit Outcome	Compliance Performance
2024	Five minor NCRs identified	Several areas required corrective improvement, particularly related to operational control and documentation practices
2025	One minor NCR identified	Improved compliance performance following the implementation of corrective actions and monitoring mechanisms

Source: Researcher's own analysis

The reduction in NCRs can be attributed to MFFM's implementation of various improvement initiatives in response to previous audit findings. As interviewees stated, MFFM implemented initiatives such as increasing control over the documentation process, improving how they monitor Halal-related records, increasing employees' knowledge of Halal certification requirements, and focusing on whether suppliers meet Halal standards. Interviewees said the previous audit findings provided valuable lessons, opportunities, and ways to grow, rather than only identifying non-compliant areas. They also stated that they implemented corrective actions to address deficiencies identified during past audits and prevent them from recurring. Therefore, internal Halal auditing was used to determine whether the Halal management system was effective and to help improve the organization. Additionally, the findings suggest that MFFM is now more proactive in addressing Halal risks. Before the external audit, MFFM increased its internal monitoring to identify deficiencies earlier. As a result, MFFM was better able to prepare for future audits and apply Halal compliance practices consistently across the organization.

The longitudinal findings of this study provide further insight into the progressive maturity of halal management practices within the organization. In particular, the reduction in Non-Conformance Reports (NCRs) between 2024 and 2025 reflects a broader pattern of improvement in organizational capability, employee awareness, documentation practices, and internal monitoring mechanisms. This improvement was supported by implementing specific Corrective and Preventive Actions (CAPA) in response to issues identified during the 2024 internal halal audit. For instance, the organization strengthened supplier control by updating the supplier validation log, enabling it to systematically record and monitor the halal certification status and supporting documentation of approved suppliers. This measure facilitated earlier identification of expired, incomplete, or potentially non-compliant supplier documentation before materials entered the production process. In addition, staff members involved in halal-critical activities underwent targeted retraining, with participation and completion documented through training records to enable management to monitor whether relevant personnel had completed corrective training. The organization also strengthened documentation and monitoring through more systematic record-keeping, follow-up on corrective actions, and verification of identified non-conformities during subsequent internal monitoring activities. Collectively, these CAPA measures show how findings from internal halal audits can translate into practical organizational improvements rather than being treated merely as compliance deficiencies.

These findings further suggest that halal certification alone should not be regarded as the final measure of an organization's performance. While certification remains an essential indicator of formal compliance,

sustainable halal integrity also depends on the organization's capacity to identify weaknesses, implement appropriate corrective and preventive measures, monitor their effectiveness, and continuously improve its Halal Assurance System (HAS). From this perspective, certification represents the foundation of an ongoing governance process rather than the endpoint of halal compliance. For halal manufacturers, the findings highlight practical measures such as maintaining an up-to-date supplier validation system, documenting and tracking staff retraining, systematically recording CAPA implementation, and verifying corrective actions through subsequent internal audits. Embedding these practices within routine operations can strengthen organizational learning, reduce the recurrence of non-conformities, and support the long-term sustainability and maturity of the HAS.

Table 3. Relationship Between Audit Findings and Continuous Improvement Process

Continuous Improvement Stage	HAS Activity at MFFM	Evidence
Plan	Establish halal procedures and compliance requirements	Halal policy, HAS documentation
Do	Implement halal controls in daily operations	Production, procurement, and documentation practices
Check	Conduct internal halal audits	Identification of NCRs in 2024
Act	Implement corrective actions and improvements	Reduction of NCRs in 2025

Source: Researcher's own analysis

4.3 Persistent Operational and Supply Chain Challenges Affecting Halal Integrity

Although the number of internal halal audits increased and their effectiveness improved from 2024 to 2025, many areas within companies' operations and supply chains still need attention. As a result of the interviews conducted with those involved in managing halal integrity, it became evident that the management of halal integrity is a continuous process due to the fact that companies have to constantly assess potential threats to halal integrity originating from outside suppliers, changes in raw materials, documentation requirements, and human error.

Four major challenges were identified:

- (i) Managing certificates of compliance for halal by suppliers
- (ii) Assessing changes to raw materials and verifying them
- (iii) Documenting and managing information
- (iv) Human-related operational consistency

Supplier Halal Certificate Management

Supplier Halal Certification Management remains a major challenge for implementing HAS. The results of this study show that managing current and future supplier halal certifications remains an ongoing issue for organizations. As participants noted, keeping up with the latest supplier documentation is an ongoing effort because many halal certificates expire, and certifications require renewals and status changes. Although MFFM developed and implemented supplier verification procedures, obtaining updated halal certifications from suppliers caused significant administrative delays. These situations required procurement and halal staff to actively monitor supplier documentation to ensure that all material entering the production process remained compliant with halal requirements. In addition, the findings suggest that manufacturers cannot directly control many supplier-related halal risks. While organizations can develop strong internal HAS practices, weaknesses among upstream supply chain partners can ultimately affect the overall halal integrity of their products.

This study's findings align with previous research identifying supplier management as a critical vulnerability in halal supply chains. Che Hassan and Osman (2024) emphasized that halal-certified manufacturers remain dependent on suppliers to provide ingredients that continuously meet halal certification requirements. Unlike conventional procurement, which typically prioritizes cost, quality, and delivery, halal procurement also requires continuous verification of religious compliance, certification validity, ingredient integrity, and traceability. Mohamed et al. (2024) similarly highlighted the importance of continuous supplier monitoring and collaboration among supply chain stakeholders. This issue extends beyond individual manufacturers and represents an industry-wide vulnerability, particularly in halal logistics and complex supply chains where certificate validity, ingredient sources, and compliance information must be maintained across multiple suppliers and intermediaries. The findings from MFFM therefore demonstrate that even a well-established internal Halal Assurance System (HAS) remains vulnerable when supplier certificates are outdated, incomplete, or not promptly updated following operational changes. To mitigate these risks, manufacturers should move beyond periodic manual verification by adopting digital certificate verification systems, centralized supplier compliance databases, and automated alerts for certificate expiry and renewal. Such mechanisms would enable halal auditors to identify certification gaps more efficiently and help regulators strengthen traceability and compliance monitoring across the halal supply chain. Consequently, effective supplier certificate management should be regarded not merely as a procurement function but as a critical component of sustainable halal governance and supply chain integrity.

Raw Material Changes and Halal Risk Management

Participants identified another major issue regarding changes to raw material and/or ingredient requirements. Participants stated that any changes to suppliers, ingredient specifications, or formulations must undergo an extensive halal evaluation before implementation. Raw material modifications could risk halal compliance, since two ingredients may appear to function similarly yet have different origins, processing techniques, and/or certifications. Therefore, the company must evaluate all modifications to ensure they remain compliant with its halal policy.

Raw material management is an important aspect of Halal supply chain management. Food production uses many different types of ingredients and processing aids. Many of these ingredients and processing aids

use very complex manufacturing processes. Without proper documentation, verifying the Halal status of these ingredients and processing aids can be extremely challenging. Halal critical control points were identified as important for managing raw-material-related risks. Systematic risk assessment methods were found necessary for organizations to identify where to focus their efforts to prevent Halal failures. The MFFM results show that HAS acts as a proactive management tool. Organizations assess potential risks associated with raw materials before using them in production, rather than reacting after identifying a Halal issue. The data from this study (MFFM) supports including Halal verification in raw material selection criteria. The raw material selection process cannot be based solely on availability and cost; it also includes Halal verification.

Documentation and Information Management Challenges

Documentation management is another area where participants expressed concerns about implementing a HAS. Many participants indicated that maintaining accurate, up-to-date record-keeping was challenging because halal compliance relies on documentary evidence.

Important documents include:

- (i) supplier halal certificates;
- (ii) ingredient specifications;
- (iii) audit records;
- (iv) corrective action reports; and
- (v) halal-related procedures

The findings indicate that accurate documentation is essential not only for audits but also for internal monitoring and decision-making. Maintaining consistent documentation practices across departments is difficult for MFFM, even with documentation controls in place, due to the large volume of information used in food production processes.

Record documentation will be critical to validating whether all elements of the halal assurance system have been implemented. To demonstrate regulatory compliance during a halal audit, it is imperative to document how compliance was achieved. Abdul Aziz and Che Hussin (2024) identify documentation as one of the most common issues in auditing. Although documentation may seem like an added administrative burden in daily operations, it serves many purposes, including improving product traceability, supporting risk assessments, and demonstrating compliance with regulatory requirements. The issue identified at MFFM reflects a broader challenge faced by individuals who manage halal products. As such, organizations must establish methods to balance operational efficiency with regulatory documentation requirements. Furthermore, digital halal information management systems are becoming increasingly significant for enhancing accessibility, accuracy, and monitoring capability.

Human Factors and Operational Consistency

The human element was identified as being a crucial component of maintaining continuous compliance with halal standards. Many participants said employees' knowledge, awareness, and application of halal

processing methods will be essential to successfully implementing HAS. Although the company provided training on halal processing methods, it has found it challenging to ensure employees follow these guidelines because of factors such as employee turnover, varying experience levels, and differences in operations.

5. DISCUSSION

The role of human factors in maintaining compliance with Halal requirements has been previously identified. Ahmad Nor Komar et al. (2024) found that employees' knowledge of Halal compliance requirements affects how fully an organization implements its Halal policy and procedures in the food industry. Harun et al. (2021) reported similar findings, stating that employee education is an ongoing process. Harun et al. (2021) noted that employees' competence levels may decline over time without regular training and opportunities to apply what they have learned. Therefore, this study's findings support the notion that a HAS program's success is not solely based on the presence of formalized processes and procedures within an organization; it also depends on employees' ability to adhere to them consistently. Thus, continued training, open communication, and employee participation will remain effective ways to reduce the negative effects of human-caused errors.

In addition to identifying areas for improvement to strengthen Halal integrity, the findings also identify several internally and externally driven factors that influence whether an organization can continue to comply with Halal standards. While MFFM has improved its audit performance, it must address other aspects of its operations to strengthen the overall integrity of Halal standards.

Table 4. Challenges faced by MFFM: Required Improvement

Challenge	Required Improvement
Supplier certificate delays	Stronger supplier monitoring and communication
Raw material changes	Early halal risk assessment and verification
Documentation complexity	Improved information management systems
Human inconsistency	Continuous training and awareness programs

Source: Researcher's own analysis

Overall, the findings indicate that HAS is a continuous governance process that will continue to evolve and therefore does not represent a "certification" standard alone.

6. CONCLUSION

The objective of this research is to evaluate if a company's Halal Assurance System (HAS) can provide the necessary tools to sustain halal integrity post-certification. The research uses two years of longitudinal data from a Malaysian frozen food manufacturer (MFFM) to examine how HAS functions as a corporate governance tool for sustaining halal integrity. The research shows that HAS is an ongoing process of structured management practices, internal halal monitoring, supplier control, employee engagement, and

continuous corrective actions that enable MFFM to continually assure halal integrity. The research compares the results of internal halal audits conducted in 2024 and 2025. It demonstrates that the continued use of HAS has led to higher compliance with the required standards. The number of minor Non-Conformance Reports (NCRs) decreased from 5 in 2024 to 1 in 2025. Therefore, simply receiving halal certification is the first step towards continuous improvement for an organization. The results of this study have significant implications for manufacturers who have received halal certification. Manufacturers need to strengthen their HAS by embedding halal responsibilities across all departments, rather than relying solely on designated personnel to manage halal. Continuous improvement requires effective internal auditing, systematic corrective and preventive actions (CAPAs), ongoing employee training, increased supplier monitoring, and improved management of halal-related documentation. Manufacturers can also use digital halal information systems to facilitate traceability, document control, and audit readiness. By using these practices, manufacturers can transition from a reactive compliance management model to a proactive halal governance model, helping them maintain halal integrity over the long term. In terms of policy, the findings indicate that regulators and industry authorities can strengthen post-certification monitoring programs by focusing on continuous performance improvement rather than certification alone. More detailed guidance on assessing halal maturity, evaluating the effectiveness of internal audits, evaluating supplier risks, and using digital halal governance systems will help organizations develop more robust halal assurance practices. A more comprehensive regulatory framework will support the overall goal of positioning Malaysia as a global leader in the halal industry by ensuring continuous adherence to halal requirements throughout the entire product life cycle. Although this study provides insight into the potential benefits of HAS, it does possess several shortcomings. Firstly, since the study examined a single frozen-food manufacturing organization, the findings may not accurately represent the experiences of all organizations that have obtained halal certification. Second, because the study relied primarily on qualitative data and internal audit records, which provided rich contextual information, it did not allow statistical generalization. Further research may include additional organizations across various food sectors, utilizing comparative or mixed methodologies, and incorporate quantitative measures of halal performance. Additional research may examine how emerging technologies such as blockchain, artificial intelligence, and integrated halal information systems may enhance the effectiveness and sustainability of HAS implementation.

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8. CONFLICT OF INTEREST STATEMENT

The authors declare no known competing financial or personal interests that could have influenced the work reported in this paper.

9. DECLARATION OF GENERATIVE AI IN THE WRITING PROCESS

During the preparation of this work, the author(s) used Grammarly to improve the grammar, clarity, and readability of the manuscript. After using this service, the author(s) reviewed and edited the content as needed and take full responsibility for the content of the publication

10. DATA AVAILABILITY/SUPPLEMENTARY MATERIALS

All data generated or analysed during this study are included in this published article

11. ETHICS STATEMENT

The researchers were cognizant of ethical considerations throughout the research project. Participants were informed about the nature of their participation before data collection began. In addition, participants knew participation was voluntary and that they could withdraw at any time. Pseudonyms were used for the organizations participating in the study because the study examined the impact of Halal Management Systems on Auditing Performance. The organization whose data is being used in this study will be referred to as "Malaysian Frozen Food Manufacturer" and therefore will not have its true name disclosed.

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