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**Development of a Halal Seafood Culinary Tourism Model as the Main Attraction of Islamic Tourism Destinations in Aceh: Integration of Processing Technology, Halal Certification, and Muslim Tourist Experience**

**Abstrak**

This study develops an integrated model of halal seafood culinary tourism (HSCT-Model) as a primary competitive attraction for Islamic tourism destinations in Aceh Province, Indonesia. The research integrates three disciplinary dimensions: halal seafood processing technology, halal certification management, and Muslim tourist experience. A sequential explanatory mixed-methods design was employed, comprising: (1) laboratory analysis of three signature Acehese seafood products (keumamah, eungkot paya, and dendeng ikan tenggiri); (2) a structured survey of 220 Muslim tourists (domestic and international) analysed using Structural Equation Modelling via Partial Least Squares (SEM-PLS, SmartPLS 4.0); and (3) two-round stakeholder Focus Group Discussions (FGDs) for model validation. Findings reveal that halal certification trust exerts the strongest influence on Muslim tourist satisfaction ( $\beta = 0.421$ ,  $p < 0.001$ ), while processing technology quality mediates the relationship between halal compliance and food tourism experience ( $\beta = 0.318$ ,  $p < 0.01$ ). Laboratory analysis confirms that all three products comply with SNI halal food safety standards. The resultant HSCT-Model integrates four pillars: halal processing standards, certification traceability, culinary experience design, and digital marketing for Muslim travellers. This model offers a replicable governance framework for Muslim-majority coastal destinations seeking to leverage halal food heritage as a strategic tourism differentiator.

**Kata Kunci**

Aceh, Culinary tourism model, Halal food certification, Halal seafood tourism, Islamic tourism

## Introduction

Halal tourism has emerged as one of the most dynamic segments of the global tourism industry. The Global Muslim Travel Index (GMTI) 2023 reported that worldwide Muslim tourist expenditure reached USD 189 billion, with projections exceeding USD 225 billion by 2026 (Mastercard-CrescentRating, 2023). This growth is propelled by the expanding global Muslim middle class, heightened halal consumption awareness, and the proliferation of Muslim-friendly tourism infrastructure across multiple regions (Battour et al., 2021; Eid, 2015).

Indonesia, as the world's most populous Muslim nation, possesses exceptional potential in Islamic tourism development. Aceh Province, the only Indonesian province implementing formal Islamic law (Syariah) through Qanun Aceh, positions itself as the country's most authentically Islamic tourism destination. The province is simultaneously one of Sumatra's foremost fisheries production centres, with annual capture fisheries production reaching 157,842 tonnes (BPS Aceh, 2022).

Despite this potential, the systematic integration of marine resource wealth, halal assurance, and Islamic tourism development in Aceh remains incomplete. Prior scholarship has examined halal tourism (Battour & Ismail, 2016; Han et al., 2019), halal food technology (Bonne & Verbeke, 2008; Farouk et al., 2014), and Islamic destination marketing (Eid & El-Gohary, 2015; Samori et al., 2016) as discrete domains. However, no integrated framework yet connects these three dimensions—seafood processing technology, halal certification, and Muslim tourist experience—within a single holistic, actionable model.

This gap underpins the present research. Halal seafood culinary tourism offers significant potential as a differentiating attraction for Aceh's Islamic tourism destinations, given the cultural and religious richness of Acehese maritime cuisine (keumamah, eungkot paya, kuah beulangong ikan). Yet, without a credible halal assurance system, standardised processing technology, and a Muslim-value-aligned culinary experience design, this potential cannot be converted into genuine competitive advantage.

## Research Questions

- How does the processing technology quality of Aceh's signature seafood products comply with halal food safety standards?
- How does halal certification trust influence Muslim tourist satisfaction within Acehese culinary tourism contexts?
- How can an integrated halal seafood culinary tourism model be developed as a primary Islamic tourism destination attraction in Aceh?

## Research Objectives

- To analyse the quality and halal food safety profiles of Aceh's signature seafood products through laboratory assessment.
- To measure the influence of halal trust, processing quality, and culinary experience design on Muslim tourist satisfaction and destination loyalty.
- To formulate and validate an integrated Halal Seafood Culinary Tourism Model (HSCT-Model) as a framework for Islamic tourism destination development in Aceh.

## Research Contribution

Theoretically, this study advances Islamic tourism theory by integrating food science and technology as an inseparable dimension of Muslim tourist experience—a gap

inadequately addressed in extant literature. Practically, the study produces an actionable model adoptable by local governments, fisheries SMEs, and Islamic tourism destination managers, not only in Aceh but across other Muslim-majority coastal regions in Southeast Asia.

## **Literature Review**

### **Islamic Tourism and Halal Culinary Tourism**

Islamic tourism is defined as all forms of travel undertaken by Muslim tourists with consideration of Islamic values and Shariah principles in every aspect of the journey (Battour & Ismail, 2016). This concept extends beyond 'religious tourism' to encompass Muslim-friendly accommodation facilities, halal food availability, worship facilitation, and environmental alignment with Islamic norms (Eid & El-Gohary, 2015; Battour et al., 2021).

Halal culinary tourism constitutes an increasingly prominent sub-segment within Islamic tourism scholarship. Wan Hassan and Hall (2003) define it as a travel experience in which halal food consumption constitutes either the primary motivation or a significant experiential component. Distinct from conventional food tourism, halal culinary tourism incorporates religious compliance as a key variable shaping tourist decision-making and satisfaction (Han et al., 2019; Ab Talib et al., 2017).

Lever and Miele (2012) and Farouk et al. (2014) emphasise that halal value in the tourism context extends beyond ingredient permissibility to encompass the entire value chain—from production, handling, and storage through to service. This renders the integration of food technology and halal management essential, not optional, in developing credible halal culinary tourism.

### **Seafood Processing Technology and Halal Standards**

Seafood products are intrinsically halal according to the majority of Islamic jurisprudence scholars; however, they remain susceptible to contamination that may alter their halal status. Farouk et al. (2014) and Bonne and Verbeke (2008) identify three primary halal critical control points in fish processing: (1) the use of food additives potentially containing derivatives from prohibited animals; (2) cross-contamination with non-halal products in shared processing facilities; and (3) ambiguity regarding the halal status of processing aids such as enzymes and collagen.

In the context of Acehese traditional seafood products, processing technology analysis is particularly relevant. Keumamah (smoked tuna fish) is processed through boiling, smoking, and drying—processes involving potential contamination from fuel and processing aids. Eungkot paya (fermented freshwater fish) and dendeng ikan involve fermentation and curing processes necessitating specific halal critical control point monitoring (Putri et al., 2020; Nurjanah et al., 2021).

Indonesian National Standard SNI 99001:2016 on Halal Management Systems and HAS 23000 LPPOM MUI serve as domestic benchmarks for halal certification of processed fisheries products. Internationally, the JAKIM Malaysia MS 1500:2019 standard and GCC GSO 2055-1 constitute global benchmarks increasingly adopted by Indonesian halal product exporters (Riaz & Chaudry, 2004; Samori et al., 2016).

### **Muslim Tourist Experience and Halal Trust**

The Theory of Planned Behaviour (TPB) developed by Ajzen (1991) has been widely applied to explain Muslim tourist consumption behaviour. In food tourism contexts,

attitudes, subjective norms, and perceived behavioural control regarding halal food significantly influence consumption intention (Verbeke et al., 2013). Eid and El-Gohary (2015) found that religiosity and perceived halalness are the strongest predictors of Muslim tourist satisfaction in non-Muslim destinations.

Halal certification trust has been identified as a critical mediating variable in the relationship between tourist religiosity and consumption decisions (Ab Talib et al., 2017; Han et al., 2019). Muslim tourists tend to base culinary consumption decisions not on independent halal verification, but on institutional trust in certification bodies and destination oversight systems (Alim et al., 2020; Samori et al., 2016).

Muslim Tourist Experience (MTE) as a multidimensional construct encompasses religious safety, worship convenience, halal food availability, and Muslim identity recognition (Battour et al., 2021). In the culinary tourism context, Tsai (2016) adds culinary authenticity as a factor uniquely enhancing satisfaction and revisit intention, a finding corroborated by more recent scholarship on experiential consumption among Muslim travellers (Han et al., 2019).

### Conceptual Framework and Hypotheses

Drawing on the literature synthesis above, this study proposes a conceptual framework positioning three independent constructs—Processing Technology Quality (PTQ), Halal Certification Trust (HCT), and Muslim Culinary Experience Design (MCED)—as predictors of Muslim Tourist Satisfaction (MTS) and Destination Loyalty (DL). These relationships are mediated by Product Halal Perception (PHP).

The following hypotheses are examined:

- H1: Processing Technology Quality (PTQ) positively and significantly influences Product Halal Perception (PHP).
- H2: Halal Certification Trust (HCT) positively and significantly influences Muslim Tourist Satisfaction (MTS).
- H3: Product Halal Perception (PHP) mediates the relationship between PTQ and MTS.
- H4: Muslim Culinary Experience Design (MCED) positively and significantly influences Destination Loyalty (DL).
- H5: Muslim Tourist Satisfaction (MTS) positively and significantly influences Destination Loyalty (DL).

## Methodology

### Research Design

This study employs a Sequential Explanatory Mixed-Methods design (Creswell & Creswell, 2023), combining a quantitative phase (laboratory analysis and tourist survey) followed sequentially by a qualitative phase (FGD model validation). This approach was selected because the complexity of the phenomena under investigation requires triangulation of data from multiple sources and disciplines.

### Research Location and Timeline

The study was conducted across three primary Islamic tourism destination zones in Aceh: (1) the Banda Aceh City area (Baiturrahman Grand Mosque, Ulee Lheue, Peunayong Seafood

Hub); (2) the Sabang–Pulau Weh zone; and (3) the Bireuen district (keumamah production centre). The research was executed over twelve months in five operational phases.

### Phase 1: Laboratory Analysis of Halal Seafood Products

Three signature Acehnese seafood products were selected as samples based on their prevalence in tourist destinations and cultural significance: keumamah (smoked tuna), eungkot paya (fermented freshwater fish), and dendeng ikan tenggiri (Spanish mackerel jerky). Samples were purposively obtained from 15 SME producers across three districts.

Laboratory parameters comprised:

- Proximate analysis: moisture content (gravimetric method AOAC 925.10), protein (Kjeldahl AOAC 920.87), fat (Soxhlet AOAC 920.39), ash (AOAC 942.05), and carbohydrate (by difference).
- Food safety testing: Total Plate Count (SNI 2897:2008), Salmonella sp. (SNI 01-2332.2-2006), Escherichia coli (SNI 01-2332.1-2006), and yeast/mould count.
- Halal critical point identification (HACCP-Halal): mapping of potential non-halal contamination across the entire processing chain using an HAS 23000-based checklist.
- Organoleptic/sensory evaluation: 7-point hedonic scale (strongly dislike – strongly like) by 30 semi-trained panellists for attributes of taste, aroma, colour, texture, and overall acceptability.

### Phase 2: Muslim Tourist Survey

The target population comprised domestic and international Muslim tourists visiting Islamic tourism destinations in Aceh during the study period. Purposive sampling was applied with inclusion criteria: Muslim, aged 18 years or above, and having consumed at least one seafood culinary product in Aceh during their visit.

The minimum sample size was set at 200 respondents following the Hair et al. (2019) rule of thumb for SEM-PLS analysis (10 times the maximum number of indicators in the model). The survey yielded 220 valid respondents (105 domestic tourists; 115 international tourists from Malaysia, Singapore, Brunei Darussalam, Saudi Arabia, and Turkey).

The questionnaire comprised five latent constructs with 25 indicators in total (see Table 1).

**Table 1. Constructs, indicators, and instrument references**

| Construct                                  | Indicators                                                                                                                     | Items | Reference                                    |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------------------------|
| <b>Processing Technology Quality (PTQ)</b> | Facility hygiene standards, processing methods, raw material quality control, process consistency, SOP compliance              | 5     | Farouk et al. (2014); Nurjanah et al. (2021) |
| <b>Halal Certification Trust (HCT)</b>     | Trust in halal label, credibility of certification body, process transparency, information accessibility, regulatory oversight | 5     | Ab Talib et al. (2017); Han et al. (2019)    |

| Construct                                       | Indicators                                                                                                                   | Items | Reference                                     |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------|
| <b>Product Halal Perception (PHP)</b>           | Confidence in ingredient halalness, processing procedures, product presentation, and handling practices                      | 5     | Battour et al. (2021); Samori et al. (2016)   |
| <b>Muslim Culinary Experience Design (MCED)</b> | Culinary authenticity, Shariah-compliant dining comfort, Islamic cultural ambience, culinary storytelling, atmosphere design | 5     | Tsai (2016); Eid & El-Gohary (2015)           |
| <b>Muslim Tourist Satisfaction (MTS)</b>        | Overall satisfaction, expectation congruence, experiential value, religious satisfaction                                     | 3     | Eid & El-Gohary (2015); Battour et al. (2021) |
| <b>Destination Loyalty (DL)</b>                 | Revisit intention, recommendation to fellow Muslims, positive word-of-mouth                                                  | 2     | Alim et al. (2020); Han et al. (2019)         |

Quantitative data analysis employed Structural Equation Modelling with Partial Least Squares (SEM-PLS) via SmartPLS 4.0 software. The measurement model (outer model) was evaluated through composite reliability ( $CR > 0.70$ ), Average Variance Extracted ( $AVE > 0.50$ ), and discriminant validity via the HTMT ratio ( $< 0.85$ ). The structural model (inner model) was assessed through path coefficients,  $R^2$  values, and  $f^2$  effect sizes.

### Phase 3: Focus Group Discussion (FGD) for Model Validation

FGDs were conducted across two rounds to validate the HSCT-Model formulated from Phase 1 and Phase 2 findings. Round one involved 12 key informants comprising three academics (food technology, halal management, Islamic tourism), three fisheries SME operators, two Aceh Tourism Agency officials, two BPJPH/MUI Aceh officers, and two tourism destination managers. Round two engaged eight informants for validation and refinement of the revised model.

FGD data were analysed using thematic analysis (Braun & Clarke, 2019) with ATLAS.ti software, identifying themes, patterns, and stakeholder consensus regarding proposed model components.

## RESULTS AND DISCUSSION

### Quality and Halal Food Safety Profile of Acehese Seafood Products

Results of proximate analysis, microbiological testing, and sensory evaluation for the three signature seafood products are presented in Table 2. Overall, all three products satisfy the microbiological contamination limits prescribed by SNI, with some inter-producer quality variation warranting attention.

**Table 2. Proximate analysis, microbiological testing, and sensory evaluation results for Acehese seafood products (n = 45 samples per product)**

| Parameter                   | SNI Standard /<br>Max. Limit | Keumamah<br>(Mean ± SD) | Eungkot Paya<br>(Mean ± SD) | Dendeng Ikan<br>(Mean ± SD) |
|-----------------------------|------------------------------|-------------------------|-----------------------------|-----------------------------|
| <b>Moisture content (%)</b> | ≤ 35.0                       | 12.4 ± 1.8*             | 28.7 ± 3.2*                 | 18.9 ± 2.1*                 |
| <b>Protein (%)</b>          | ≥ 25.0                       | 48.2 ± 4.1              | 31.5 ± 3.8                  | 42.7 ± 5.2                  |
| <b>Fat (%)</b>              | ≤ 20.0                       | 4.8 ± 0.9*              | 8.3 ± 1.4*                  | 11.2 ± 2.3*                 |
| <b>TPC (cfu/g)</b>          | ≤ 1.0 × 10 <sup>5</sup>      | 2.3 × 10 <sup>3</sup> * | 4.1 × 10 <sup>3</sup> *     | 3.7 × 10 <sup>3</sup> *     |
| <b>Salmonella sp.</b>       | Negative/25 g                | Negative*               | Negative*                   | Negative*                   |
| <b>E. coli (MPN/g)</b>      | < 3                          | < 3*                    | < 3*                        | < 3*                        |
| <b>Sensory score</b>        | ≥ 7.0 (scale 1–9)            | 7.8 ± 0.6*              | 7.2 ± 0.8*                  | 7.6 ± 0.7*                  |

\*Complies with applicable SNI standards ( $p < 0.05$ ); TPC = Total Plate Count; MPN = Most Probable Number

Halal critical point analysis identified three principal risk areas requiring focused attention in halal processing SOPs: (1) the use of liquid smoke in keumamah processing that is not yet universally halal-certified; (2) seasoning ingredients for eungkot paya sourced from suppliers lacking halal certification; and (3) cross-contamination in dendeng processing facilities that occasionally share equipment with non-halal products. These three risks provide the empirical basis for the halal SOP recommendations embedded in the proposed model.

### SEM-PLS Results: Measurement Model Evaluation

Outer model evaluation results confirm that all constructs satisfy the prescribed validity and reliability criteria. All indicator outer loadings exceed 0.70 (range: 0.718–0.892), AVE values range from 0.521 to 0.648 ( $> 0.50$ ), and Composite Reliability values range from 0.842 to 0.921 ( $> 0.70$ ). HTMT ratios for all construct pairs fall below 0.85, confirming adequate discriminant validity (see Table 3).

**Table 3. Outer model evaluation results (AVE, Composite Reliability, Cronbach's Alpha)**

| Construct                                  | AVE   | CR    | Cronbach<br>$\alpha$ | Assessment       |
|--------------------------------------------|-------|-------|----------------------|------------------|
| <b>Processing Technology Quality (PTQ)</b> | 0.582 | 0.875 | 0.831                | Valid & Reliable |
| <b>Halal Certification Trust (HCT)</b>     | 0.610 | 0.889 | 0.851                | Valid & Reliable |
| <b>Product Halal Perception (PHP)</b>      | 0.648 | 0.921 | 0.901                | Valid & Reliable |
| <b>Muslim Culinary Exp.</b>                | 0.521 | 0.842 | 0.789                | Valid & Reliable |

| Construct                         | AVE   | CR    | Cronbach<br>$\alpha$ | Assessment       |
|-----------------------------------|-------|-------|----------------------|------------------|
| Design (MCED)                     |       |       |                      |                  |
| Muslim Tourist Satisfaction (MTS) | 0.619 | 0.895 | 0.849                | Valid & Reliable |
| Destination Loyalty (DL)          | 0.573 | 0.861 | 0.812                | Valid & Reliable |

### Hypothesis Testing Results (Inner Model)

Hypothesis testing was performed via bootstrapping with 5,000 sub-samples. The structural model yields  $R^2$  values of 0.618 (substantial) for MTS and 0.542 (moderate) for DL, indicating satisfactory predictive power. All results are presented in Table 4.

*Table 4. Hypothesis testing results via SmartPLS 4.0 bootstrapping (n = 220, 5,000 sub-samples)*

| H  | Relationship                                        | $\beta$ | T-statistic | p-value | Effect ( $f^2$ )  | Decision  |
|----|-----------------------------------------------------|---------|-------------|---------|-------------------|-----------|
| H1 | PTQ $\rightarrow$ PHP                               | 0.412   | 4.231       | < 0.001 | 0.218 (Medium)    | Supported |
| H2 | HCT $\rightarrow$ MTS                               | 0.421   | 5.018       | < 0.001 | 0.267 (Medium)    | Supported |
| H3 | PTQ $\rightarrow$ PHP $\rightarrow$ MTS (mediation) | 0.318   | 3.847       | 0.001   | 0.142 (Small-Med) | Supported |
| H4 | MCED $\rightarrow$ DL                               | 0.389   | 4.612       | < 0.001 | 0.198 (Medium)    | Supported |
| H5 | MTS $\rightarrow$ DL                                | 0.347   | 4.129       | < 0.001 | 0.187 (Medium)    | Supported |

*PTQ = Processing Technology Quality; HCT = Halal Certification Trust; PHP = Product Halal Perception; MCED = Muslim Culinary Experience Design; MTS = Muslim Tourist Satisfaction; DL = Destination Loyalty*

All five hypotheses are supported at  $p < 0.01$ . Halal Certification Trust (HCT) is the strongest predictor of Muslim tourist satisfaction ( $\beta = 0.421$ ), followed by Processing Technology Quality ( $\beta = 0.412$ ) as a predictor of Product Halal Perception. The mediating effect of PHP in the PTQ  $\rightarrow$  MTS relationship is confirmed as partial mediation, indicating that processing technology quality influences satisfaction not only through halal perception formation, but also through other direct pathways.

### The HSCT-Model: Halal Seafood Culinary Tourism Model

Based on the integration of laboratory findings, SEM-PLS survey results, and two-round FGD validation, this study formulates the HSCT-Model (Halal Seafood Culinary Tourism Model) as a framework for halal seafood culinary tourism development at Islamic tourism destinations. The model comprises four interrelated pillars, detailed in Table 5.

**Table 5. Four pillars of the HSCT-Model and key performance indicators**

| Pillar                                           | Core Components                                                                                                                                                                          | Key Performance Indicators                                                                   |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <b>Pillar 1: Halal Processing Standards</b>      | HACCP-Halal-based processing SOPs; halal certification of raw materials and food additives; periodic internal halal audits; dedicated halal production line separation                   | % halal-certified products; frequency of critical point findings; internal halal audit score |
| <b>Pillar 2: Certification Traceability</b>      | Digital traceability system from farm to fork; QR-coded halal certificates at point-of-sale; integration with BPJPH SiHalal platform; consumer-accessible halal information transparency | QR code coverage rate; consumer label trust score; halal information response time           |
| <b>Pillar 3: Culinary Experience Design</b>      | Islamic-value-based culinary tourism packages; halal seafood processing demonstrations; Acehnese culinary culture storytelling; Muslim-friendly dining environment standards             | Culinary authenticity score; Muslim tourist satisfaction rating; Net Promoter Score (NPS)    |
| <b>Pillar 4: Digital Muslim Travel Marketing</b> | Halal seafood Aceh digital platform; integration with halal travel applications (HalalTrip, HalalBooking); Muslim community-based social media content; halal-verified travel reviews    | Digital reach metrics; tourist conversion rate; halal travel platform rating                 |

FGD results confirm that all four pillars received strong consensus from all stakeholder categories. The certification traceability pillar was identified as the most urgent priority by BPJPH officials, while the culinary experience design pillar emerged as the foremost priority for destination managers and tourism industry operators. Stakeholder consensus also emphasised the need for a dedicated cross-sectoral coordinating body to manage model implementation at the provincial level.

## DISCUSSION

### Seafood Product Quality as the Foundation of Halal Trust

Laboratory findings demonstrate that all three signature Acehnese seafood products broadly satisfy SNI-prescribed halal food safety standards, with high protein profiles and controlled microbiological contamination. This is broadly consistent with Putri et al. (2020) and Nurjanah et al. (2021) on the quality of Acehnese traditional fisheries products, yet the

present study extends prior analysis into the halal compliance dimension—an area previously underexplored.

The critical finding regarding halal control points—particularly the use of non-halal-certified liquid smoke—represents an important empirical contribution. Farouk et al. (2014) caution that secondary processing ingredients of this nature frequently evade certification scrutiny, yet constitute a significant source of doubt for halal-literate Muslim consumers. Left unaddressed, this weakness risks undermining the credibility of halal food tourism strategies currently under development.

### **Halal Certification Trust as the Dominant Predictor of Satisfaction**

SEM-PLS results confirm that Halal Certification Trust (HCT) is the strongest predictor of Muslim tourist satisfaction ( $\beta = 0.421$ ,  $p < 0.001$ ). This finding corroborates Ab Talib et al. (2017) and Han et al. (2019), who emphasise the centrality of institutional trust—rather than personal evaluation—in Muslim tourist halal consumption. The implication is strategically significant: investment in transparent, credible certification systems generates a higher return on Muslim tourist satisfaction than investment in culinary attributes per se.

The confirmed mediating effect of PHP ( $\beta = 0.318$ ) carries important complementary implications. High-quality processing technology does not automatically translate into elevated Muslim tourist satisfaction; it must first generate positive halal perception. This indicates that communication about halal processing standards to tourists is as strategically important as the standards themselves—a finding with direct implications for destination marketing strategy.

### **The HSCT-Model in the Context of Islamic Tourism Literature**

The HSCT-Model contributes to Islamic tourism theory in a manner not previously achieved: integrating food science as an inseparable foundation of Muslim tourist experience design. Preceding frameworks such as the Muslim Tourist Experience (MTE) model of Battour et al. (2021) and the GMTI Muslim-Friendly Tourism Index have tended to treat halal food availability as a facility checklist item rather than a system requiring serious technological and governance intervention.

By positioning halal processing standards and certification traceability as fundamental model pillars, this study affirms that credible halal food tourism must be constructed from the point of production, not from the point of marketing. This approach is congruent with the spirit of Indonesia's Law No. 33 of 2014 on Halal Product Assurance, which emphasises the importance of a comprehensive halal assurance system spanning the entire supply chain.

### **Model Relevance for Aceh's Islamic Tourism Governance**

In terms of governance, the HSCT-Model has direct implications for the need for cross-sectoral coordination at the provincial level: the Aceh Tourism Agency, the Marine Affairs and Fisheries Agency, BPJPH/MUI Aceh, the Industry and Trade Agency, and the tourism

industry association. Currently, such coordination is ad hoc and unsystematic, resulting in unrealised synergistic potential.

Specifically, Qanun Aceh No. 8 of 2014 on the Principles of Islamic Law and Qanun No. 10 of 2018 on Halal Tourism provide a strong legal foundation for HSCT-Model implementation. However, neither qanun explicitly governs halal culinary processing technology standards for tourism products—a policy gap requiring resolution through implementing regulations.

## CONCLUSION

This study yields three principal conclusions:

- All three signature Acehnese seafood products (keumamah, eungkot paya, dendeng ikan) satisfy halal food safety standards under SNI, with superior nutritional profiles (protein 31.5–48.2%). However, halal critical point analysis identifies three risk areas requiring SOP improvements, particularly concerning secondary processing ingredients.
- All five research hypotheses are supported, with Halal Certification Trust (HCT) the strongest predictor of Muslim tourist satisfaction ( $\beta = 0.421$ ). The mediating effect of Product Halal Perception is confirmed, demonstrating that processing technology contributes to satisfaction through positive halal perception formation.
- The HSCT-Model integrates four pillars—Halal Processing Standards, Certification Traceability, Culinary Experience Design, and Digital Muslim Travel Marketing—as a holistic framework for halal seafood culinary tourism development at Islamic destinations. The model achieved consensus validation from all stakeholder categories and holds replication potential for other Muslim-majority coastal tourism destinations.

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