Tanwirul Uqul: Jurnal Ekonomi dan Bisnis Islam
e-ISSN 2746-1017, p-ISSN 2746-1009
Vol. 05, No. 02 (2024), pp. 104-116
URL: https://journalstebiabangkalan.com/index.php/tanwiruluqul

Halal Certification and Revenue Performance of Culinary Small and Medium Enterprises in Pamekasan Regency, Madura, Indonesia

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Article Info

Keywords:
Halal certification; culinary revenue; small and medium enterprises; Pamekasan regency; regulatory barriers.

Article history:
Received: 2024-01-28
Revised: 2024-04-05
Accepted: 2024-08-20

Abstract

This study investigates the implementation, stakeholder responses, and economic implications of halal certification among culinary small and medium enterprises (SMEs) in Pamekasan Regency, Madura, Indonesia. Grounded in signalling theory (Spence, 1973), the study adopts a qualitative-dominant mixed-methods design that integrates structured questionnaire instruments with in-depth interview protocols. Primary data were gathered from 12 purposively selected SME proprietors representing micro, small, and medium enterprise classifications, supplemented by key informant interviews with representatives of five institutional stakeholders. Thematic analysis of qualitative data was triangulated with non-parametric statistical testing applied to the subsample of certified enterprises (n = 5). The findings reveal that despite high awareness of halal certification obligations and active governmental facilitation, substantive structural and behavioral barriers impede certification uptake. The most critical structural barrier is the systemic absence of BPJPH-certified slaughterhouses in the region, which disrupts upstream supply chain compliance for meat-based culinary operators. Contrary to signalling theory predictions, halal certification did not produce a statistically significant improvement in enterprise revenue. This study proposes the construct of *cultural halal trust* to account for this divergence, whereby the culturally embedded presumption of product halalness among Muslim consumers in predominantly Islamic localities attenuates the informational signal value of formal certification. These findings contribute to the growing literature on halal assurance systems by delineating the socio-cultural boundary conditions of signalling theory in local Muslim-majority market contexts, and they offer actionable insights for policymakers and certification bodies operating in high-trust cultural environments.

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Citation:
Fathollah, M. F., & Zaini, M. A. (2024). Halal Certification and Revenue Performance of Culinary Small and Medium Enterprises in Pamekasan Regency, Madura, Indonesia. *Tanwirul Uqul, 5*(2), 104-116.

1. INTRODUCTION

The expansion of domestic industry and trade has generated a proliferation of products and services accessible for public consumption. Within this context, producer negligence carries substantial risks of consumer harm, both materially and in terms of health and safety. Legal frameworks have accordingly been established to protect consumer rights, including the right to receive appropriate compensation when affected by producer negligence (Qodir & Muhim, 2024). The imposition of legal sanctions on non-compliant producers serves a dual function, both remedying consumer harm and incentivizing producers to uphold product safety and quality standards.

In the Indonesian context, the small and medium enterprise (SME) sector occupies a central position in national economic development. Data from Kadin Indonesia indicate that the total number of SME operators reached approximately 65.46 million in 2021, rising to approximately 66 million by 2023, with a collective contribution of approximately 61 percent to the national Gross Domestic Product, equivalent to IDR 9,580 trillion (Harmen et al., 2024). The food processing segment constitutes a substantial proportion of this sector, with many enterprises having obtained halal certification as a quality and compliance assurance instrument. Ahmad Hidayat Buang (as cited in Harmen et al., 2024) underscored that halal certification serves not merely as a market expansion mechanism but also as a trust-building and quality assurance signal for consumers.

The rapid penetration of digital technologies has fundamentally transformed the operational landscape of SMEs in Indonesia, with social media platforms increasingly functioning as channels for marketing, promotion, and customer relationship management (Ubainahum et al., 2024). Within this digitally mediated environment, the culinary SME sector has emerged as one of the most dynamic subsectors of the creative economy, operating not only as a nutritional source but also as an element of lifestyle and cultural expression. This dynamism has intensified competitive pressures and raised the importance of quality assurance mechanisms, among which halal certification holds particular significance. The visibility of halal certification status in digital marketing channels has further amplified consumer awareness, creating new pathways through which certification may influence purchasing decisions beyond traditional point-of-sale contexts (Briliana and Mursito, 2017).

For Muslims, the consumption of halal products transcends nutritional fulfillment and constitutes an act of religious observance. In Indonesia, the legal foundation for halal product assurance is established through Law Number 33 of 2014 concerning Halal Product Assurance, which provides Muslim consumers with legal certainty regarding the halal status of food and beverage products in circulation (Hidayat et al., 2024). This legislation, complemented by Government Regulation Number 39 of 2021, mandates halal certification for food products and designates the Halal Product Assurance Organizing Agency (BPJPH) as the competent regulatory authority. The Consumer Protection Law further reinforces these provisions by prescribing administrative and criminal sanctions for non-compliant business operators.

Pamekasan Regency, situated in the central part of Madura Island, East Java, Indonesia, presents a compelling research setting for examining halal certification dynamics within the culinary SME sector. As a region characterized by a predominantly Muslim population with deeply embedded Islamic cultural traditions, Pamekasan possesses considerable culinary tourism potential anchored in distinctive Madurese gastronomic offerings, including sate, soto, and various processed poultry dishes served along the main provincial arterial road traversing the regency. The growth of this culinary sector generates substantial income opportunities for SME operators. However, its sustained development is contingent upon quality assurance mechanisms, among which halal certification occupies a critical regulatory and commercial position.

Prior scholarly contributions have addressed the significance of halal certification within culinary SME contexts. Salam and Makhtum (2022) demonstrated that culinary SMEs in Sampang Regency have achieved considerable certification uptake, with halal certification increasingly integrated within standard production processes. Alfarizi (2023) empirically established that halal certification status, halal practice compliance, and halal quality assurance systems collectively exert significant positive effects on operational effectiveness and, by extension, on financial performance among Nusantara culinary SMEs. Giyanti and Indriastiningsih (2018) identified procedural complexity and the multiplicity of eligibility criteria as primary obstacles to halal certification among SMEs in Surakarta, recommending priority strategies to streamline compliance pathways. These prior contributions have not adequately theorised the role of cultural context in mediating the relationship between certification signals and consumer behavioral responses, a gap that the present study seeks to address.

At the international level, halal certification has been theorised within the framework of signalling theory (Spence, 1973), which posits that formal credentials enable producers to communicate credence-quality attributes to consumers in information-asymmetric markets. Applied to halal food contexts, certification labels function as observable signals that reduce consumer uncertainty regarding religious dietary compliance (Tieman and Ghazali, 2014). Empirical evidence from diverse Muslim-majority and Muslim-minority markets demonstrates that halal certification exerts a significant positive influence on consumer purchase intentions (Awan et al., 2015) and has emerged as a strategic instrument for cross-cultural market differentiation (Wilson and Liu, 2011). However, the translation of certification into measurable financial performance gains depends critically on the extent to which consumers actively recognise and respond to the certification signal, a condition that varies considerably across regional and socio-cultural contexts (Ab Talib et al., 2015). In contrast to Muslim-minority markets where halal certification reduces consumer uncertainty about unfamiliar producers, Muslim-majority localities may exhibit trust structures rooted in social proximity and community-level halal monitoring that function independently of formal certification systems (Rezai et al., 2012; Lada et al., 2009). This distinction has received limited systematic attention in prior empirical literature and warrants rigorous investigation.

Despite these contributions, extant literature has not adequately examined the certification implementation dynamics, operator responses, and revenue effects of halal certification specifically within Pamekasan Regency's culinary SME sector. Furthermore, the theoretical mechanisms through which cultural context modifies the signal value of halal certification remain underspecified in the existing literature, limiting the capacity of scholars and policymakers to develop contextually appropriate certification promotion strategies. This study accordingly addresses three principal research questions. The first concerns how halal certification is implemented among culinary SMEs in Pamekasan Regency. The second examines the responses of SME proprietors to halal certification requirements. The third investigates the extent to which halal certification affects revenue generation among culinary SMEs in Pamekasan Regency.

This study makes three principal contributions to the literature. First, it provides empirical evidence on the implementation challenges of halal certification in a Muslim-majority local context characterized by systemic supply chain non-compliance. Second, it advances the theoretical understanding of signalling theory by identifying cultural halal trust as a boundary condition that attenuates the revenue effect of certification in high-trust cultural environments. Third, it offers policy recommendations for differentiated certification support strategies that address both structural barriers and demand-side behavioral factors.

2. METHODS

This study employs a mixed-methods exploratory design, integrating quantitative survey data with qualitative in-depth interview evidence to examine the relationship between halal certification and SME revenue performance in Pamekasan Regency. Specifically, the design follows a qualitative-dominant concurrent triangulation strategy (Creswell and Creswell, 2018), in which the qualitative component carries primary explanatory weight while the quantitative component provides supplementary statistical evidence. This design was adopted on the grounds that the bounded study context and the interpretive nature of the principal research questions render a purely quantitative approach insufficient; the combination of structured questionnaire data and interview narratives yields a more comprehensive empirical basis than either method in isolation (Creswell and Creswell, 2018). The interview protocol was structured to elicit targeted information from respondents selected according to purposive criteria relevant to the research objectives, ensuring that each participant possessed direct and substantive knowledge of halal certification processes within the culinary sector.

The study population comprised culinary SME proprietors operating within Pamekasan Regency. A sample of 12 respondents was drawn from across three business classification strata, encompassing micro enterprises, small enterprises, and medium enterprises (Sugiarto et al., 2003). This sample size is consistent with qualitative case study conventions, in which purposive selection of informationally rich cases takes precedence over statistical representativeness (Yin, 2018; Miles et al., 2020). The adequacy of the sample was further supported by the attainment of thematic saturation during the interview process, wherein no substantively new themes emerged after the ninth interview, indicating that the 12-respondent sample provides sufficient coverage of the principal phenomena under investigation. Although the sample size is modest, it is appropriate for the mixed-methods exploratory design adopted in this study. Following the purposive sampling rationale articulated by Patton (2002), participants were selected to maximise informational richness with respect to the study objectives rather than to achieve statistical representativeness of a broader population. The sample spans all three official SME classification categories, providing within-stratum coverage proportionate to the scale of the accessible culinary SME population in the regency. This approach is consistent with mixed-methods research designs applied in analogous studies of SME certification behaviour in localised market contexts (Ab Talib et al., 2015; Giyanti and Indriastiningsih, 2018).

Primary data were obtained through the direct completion of structured questionnaires by respondents, supplemented by in-depth interviews to validate and enrich questionnaire responses. Each in-depth interview lasted between 45 and 60 minutes and was conducted at the respondents' business premises to ensure ecological validity. Interviews were audio-recorded with respondents' informed consent and subsequently transcribed verbatim to facilitate systematic thematic analysis. Key informant interviews were additionally conducted with five institutional representatives from government agencies and the university-based Halal Center, providing an institutional perspective that complemented the operator-level data. Secondary data were sourced from published regulatory instruments, institutional reports, and relevant peer-reviewed literature. Analytical procedures followed a concurrent mixed-methods strategy (Tashakkori and Teddlie, 2010), in which quantitative descriptive statistics derived from the structured questionnaire were triangulated with qualitative thematic evidence from the in-depth interview transcripts. For the revenue comparison, the pre-certification and post-certification monthly revenue figures reported by the five actively certified respondents were analysed using the Wilcoxon signed-rank test, which is appropriate for paired non-parametric data from small samples (Hair et al., 2019). Qualitative data were subjected to thematic analysis to identify recurrent patterns in operator responses to certification requirements, institutional barriers, and consumer behavioural dispositions toward halal labelling. The resulting analytical outputs were organised systematically to address the study's three principal research questions.

To ensure measurement quality, the structured questionnaire underwent content validity assessment through independent expert review by two specialists in halal product assurance and SME management, each of whom evaluated the relevance, clarity, and comprehensiveness of the questionnaire items. Minor revisions were incorporated following expert feedback prior to the commencement of data collection. Reliability of the composite attitudinal and perceptual scale items was assessed using Cronbach's alpha, yielding a coefficient of 0.76, which exceeds the threshold of 0.70 recommended for exploratory research (Hair et al., 2019). For the qualitative component, credibility was established through methodological triangulation and member-checking, wherein preliminary thematic summaries were verified with two key informants to confirm the accuracy of the interpretive derivations.

3. RESULTS

3.1. Respondent Characteristics and Business Profile

Of the 12 respondents included in the analysis, approximately half operated micro enterprises, approximately one-third managed small enterprises, and the remainder operated medium enterprises. Table 1 presents the distribution of respondents by business classification and halal certification status.

Table 3.1. Distribution of Respondents by Business Classification and Halal Certification Status

Classification	Not Yet Certified	Actively Certified	Inactively Certified	Total
Micro	5	1	0	6
Small	1	2	1	4
Medium	1	1	0	2
Total	7	4	1	12

Capital availability constitutes a foundational determinant of SME development trajectories. Among culinary entrepreneurs in Pamekasan Regency, approximately 75 percent commenced operations with initial capital below IDR 50,000,000, predominantly sourced from personal funds. Upon demonstrating business viability, a number of operators subsequently accessed institutional lending from banking institutions to support operational expansion. With respect to workforce educational attainment, approximately 55 percent of employees had completed senior secondary education, while approximately 40 percent possessed junior secondary or lower educational qualifications. The remaining five percent held tertiary educational credentials. Most workforce competencies were acquired through practical field experience, self-directed skill development, and participation in vocational training programs organized by government agencies.

The distribution of certification status across business classifications reveals a pattern consistent with the theoretical expectation that the resource intensity of certification compliance is inversely related to enterprise scale, with micro enterprises exhibiting the highest rate of non-certification (83 percent) relative to their proportional representation in the sample. This pattern aligns with prior evidence from analogous SME certification studies in Indonesia (Giyanti and Indriastiningsih, 2018) and suggests that certification support programs should prioritise micro enterprises as the segment facing the greatest structural constraints.

Table 3.2. Workforce Educational Attainment

Sub-variable	Elementary School / Junior High School	Senior High School	Higher Education Institution
Unskilled	40%		
Skilled		55%	
Educated			5%

Source: Primary Data (2024)

Note: The table above presents workforce competency categories alongside their corresponding educational attainment levels and percentage shares. Each row represents a distinct competency stratum: unskilled workers (40% of the workforce) are predominantly drawn from elementary or junior high school graduates; skilled workers (55%) have completed senior high school; and educated workers (5%) hold higher education qualifications. The diagonal presentation reflects the mutually exclusive nature of the three strata. This classification follows the competency-education categorisation conventionally applied in Indonesian SME workforce studies.

3.2. Business Duration and Information Sources for Halal Certification

The operational tenure of respondent enterprises ranged from three to 22 years, reflecting varying levels of business maturity and market experience. Among the more established enterprises, certain culinary businesses had sustained operations for over two decades, attaining regional brand recognition with multiple branch outlets across Indonesia, demonstrating the resilience and sustainability achievable within this industry segment.

The primary channel through which SME operators in Pamekasan Regency obtained information relevant to halal certification was government service agencies, including the Regional Office of Trade, the Office of Industry and Manpower, the Office of Cooperatives and Micro Enterprises, the Ministry of Religious Affairs of Pamekasan Regency, and the Halal Center of Trunojoyo University Madura. A smaller proportion of respondents obtained information through regional SME associations, specifically the East Java Small and Medium Industry Forum.

Table 3.3. Business Duration and Halal Certification Status

Years of Operation	Not Yet Certified	Actively Certified	Inactively Certified	Total
1–5	5			5
5–10	3			3
10–15		1	1	2
15–20	1			1
>20	1	1		2

Source: Primary Data (2024)

3.3. Halal Certification Implementation and Challenges

Table 3.4. Information Sources for Halal Certification by Certification Status

Information Source	Not Yet Certified	Actively Certified	Inactively Certified	Total
SME Association	2			2
Government Service	6	4		10

Others	0	0	0	0

Source: Primary Data (2024)

Interviews with key informants from relevant government and academic institutions revealed a pattern of active institutional engagement in supporting SME certification, alongside persistent structural impediments. The Chairman of the Halal Center at Trunojoyo University Madura (Hammam, 2024) confirmed that the institution plays an active facilitation role across all stages of the certification process, from initial advisory support through to certificate issuance. Notwithstanding these facilitation efforts, a recurrent and significant challenge concerns the use of raw materials sourced from slaughterhouses that do not possess halal certification from BPJPH. In Pamekasan Regency, none of the existing animal slaughterhouses hold valid halal certification. This systemic absence constitutes a critical barrier, as BPJPH regulations require that meat-based raw materials originate from certified halal animal slaughterhouses (RPH), certified poultry slaughterhouses (RPU), or certified chicken slaughterhouses (RPA).

The Office of Cooperatives and Micro Enterprises (Musninah, 2024) reported that the number of halal-certified SMEs within the study area remains limited, as many operators perceive the certification process as administratively burdensome. Socialization efforts are frequently undermined by low attendance rates among target entrepreneurs, who prioritize immediate business operations over engagement with certification-related activities. The Office of Industry and Manpower (Juliasari, 2024) similarly noted that operators who receive certification assistance often demonstrate insufficient cooperation in supplying the requisite documentation. The Department of Trade reported that many operators are deterred by documentary requirements and exhibit limited intrinsic motivation to pursue certification independently, notwithstanding the facilitation efforts of the trade department as a liaison body serving developing SMEs (Atmaja, 2024).

Based on interview findings, respondents were categorized into three groups according to their knowledge and engagement with halal certification. The first group comprises SME operators who understand the importance of halal certification but are impeded by the uncertified status of their raw material suppliers. This group recognizes the regulatory obligation but is unable to fulfill certification criteria without upstream supply chain compliance, as none of the existing slaughterhouses in Pamekasan Regency hold BPJPH-issued halal certificates. The second group comprises operators with limited knowledge of halal certification procedures, who perceive the process as excessively complex and are consequently disinclined to pursue certification. This group reflects a broader phenomenon observed in Muslim-majority regions, wherein the presumption of inherent product halalness reduces the perceived urgency of formal certification (Muzayanah et al., 2019). The third group comprises operators who are aware of the mandatory certification requirements stipulated under Government Regulation Number 39 of 2021 and are actively exploring alternative compliance pathways, such as training and certifying internal halal slaughterers for workers responsible for in-house poultry processing.

Thematic analysis of interview transcripts further identified a recurring discourse of institutional trust deficits, wherein operators expressed skepticism regarding the procedural consistency and accessibility of BPJPH requirements. This skepticism was most pronounced among operators in the first and second groups, suggesting that perceptions of procedural fairness constitute an additional dimension of certification resistance beyond the structural barriers identified in prior literature (Giyanti and Indriastiningsih, 2018). Addressing this trust deficit requires not only procedural simplification but also sustained relational engagement between certification bodies and SME operators to build confidence in the fairness and predictability of the certification process

3.4. Revenue Implications of Halal Certification

Prior to obtaining halal certification, monthly revenue among respondent SMEs ranged from IDR 5,000,000 to IDR 70,000,000, with a mean of approximately IDR 20,000,000. To formally assess whether certification produced a discernible change in revenue performance, a Wilcoxon signed-rank test was applied to the pre-certification and post-certification monthly revenue figures reported by the five actively certified respondents; this test being appropriate for paired non-parametric data from small samples (Hair et al., 2019). The test did not yield a statistically significant result ($p > 0.05$), confirming the absence of a meaningful revenue change attributable to certification within this sub-sample. The non-significant result was consistent across all five certified cases, suggesting a uniform pattern of revenue stability rather than individual variation obscuring an aggregate effect. This result should be interpreted with appropriate caution given the very small number of certified respondents ($n = 5$); it nonetheless provides a formal non-parametric statistical basis for the conclusion that halal certification did not generate discernible revenue gains in this study context. Operators reported that the majority of their customers, consistent with the predominantly Muslim demographic profile of Pamekasan, do not actively verify the halal status of culinary products prior to purchase. Consumers tend to assume that locally produced food is inherently halal, a behavioral disposition rooted in the region's strong Islamic cultural identity (Nia, 2024; Ahmad, 2024; Muzayanah et al., 2019). The absence of consumer-driven halal verification behavior among Muslim purchasers in Pamekasan thus substantially attenuates the anticipated revenue premium ordinarily associated with halal certification in other market contexts.

4. DISCUSSION

The regulatory framework governing halal certification in Indonesia represents a substantive institutional development for Muslim consumers, providing formal legal certainty regarding the halal compliance of food and beverage products in circulation. As Hidayat et al. (2024) observed, halal certification functions simultaneously as a religious assurance mechanism, a consumer trust instrument, and a product quality signal. The multi-tiered regulatory architecture in Indonesia, anchored by Law Number 33 of 2014 and supplemented by ministerial regulations and BPJPH technical directives, establishes a comprehensive governance structure spanning production, distribution, and market surveillance. This framework reflects a global trend toward the institutionalization of halal assurance systems as instruments of both consumer protection and market development.

From the perspective of signalling theory, this regulatory architecture serves a credential-provision function, supplying producers with verifiable halal signals that reduce information asymmetry between producers and consumers in markets where religious dietary compliance is not directly observable (Spence, 1973; Tieman and Ghazali, 2014). The effectiveness of this signaling mechanism depends, however, on the receptivity of consumers to the certification signal, a condition that varies substantially across market contexts. In high-anonymity commercial environments, such as urban supermarkets or export markets, consumers rely heavily on certification labels as proxies for producer compliance. In community-embedded local markets, however, informal social assurance mechanisms may substitute for formal signal verification, as consumers possess direct or socially mediated knowledge of producer identity and practice.

Notwithstanding this institutional robustness, the findings of the present study corroborate and extend prior evidence regarding the practical barriers confronting SMEs in the certification process. The systemic absence of BPJPH-certified slaughterhouses in Pamekasan Regency constitutes the most significant structural impediment identified in this study. Since culinary SMEs in the region predominantly process meat-based products, the uncertified status of their upstream raw material suppliers renders full compliance with halal certification criteria unattainable through conventional supply chain channels alone. This finding aligns with Giyanti and Indriastiningsih (2018), who identified supply chain compliance gaps as a key barrier to SME certification, and extends their analysis by demonstrating how upstream non-compliance creates a systemic blockage that individual operator-level facilitation efforts are insufficient to overcome.

This finding has broader implications for halal supply chain governance beyond Pamekasan Regency. In regions where primary processing infrastructure lacks halal certification, operator-level compliance efforts are fundamentally constrained by upstream institutional gaps. Policy interventions targeting individual enterprise compliance, without concurrent investment in upstream supply chain certification, are therefore likely to produce suboptimal outcomes in terms of population-level halal certification rates. This observation suggests that national halal certification policy in Indonesia should adopt a supply chain systems perspective, with priority investment directed at certifying slaughterhouse and primary processing facilities before mandating downstream enterprise compliance.

The administrative complexity of the certification process represents an additional impediment, particularly for micro enterprises with limited organizational and administrative capacity. This finding is consistent with Salam and Makhtum (2022), who documented procedural complexity as a constraint on certification uptake in Sampang Regency. The present study extends this finding by demonstrating that even where governmental facilitation is actively and consistently provided, the willingness of operators to engage with the certification process remains constrained by a combination of documentary burden, perceived time costs, and insufficient intrinsic motivation. The gap between institutional supply of facilitation and operator demand for certification thus reflects a behavioral dimension that procedural simplification alone may not resolve.

The most theoretically significant finding of this study concerns the absence of a discernible revenue effect following halal certification. This outcome diverges from the expectation, implicit in regulatory discourse and supported by Alfarizi (2023), that halal certification would generate positive financial returns through enhanced consumer trust and expanded market access. The explanatory mechanism proposed in this study is culturally specific and should be understood as an inferential interpretation rather than a directly verified causal finding, given that consumer-side survey data were not collected as part of this study.

To theorise this mechanism more rigorously, this study introduces the construct of *cultural halal trust*, defined as the generalized presumption among consumers in a Muslim-majority community that locally sourced food products are inherently halal, based on social proximity and community-level monitoring of producers rather than on formal certification evidence. This construct differs from institutional trust in halal certification bodies (Ab Talib et al., 2015) in that it derives from informal social assurance mechanisms operating independently of regulatory authority. Cultural halal trust operates as a boundary condition of signalling theory in halal market contexts. Where cultural halal trust is high, as in Pamekasan Regency, the marginal informational value of formal certification labels is attenuated, because consumers already possess strong informal assurances of product halalness. This attenuation mechanism explains why halal certification did not generate discernible revenue gains in the present study context, despite the theoretically predicted positive effect documented in other settings. The cultural halal trust construct resonates with social capital theory (Putnam, 2000), which recognises that dense social networks in geographically and culturally cohesive communities generate informal quality assurance mechanisms that substitute for or complement formal institutional signals.

This interpretation is broadly consistent with evidence from other Muslim-majority economies. Rezai et al. (2012), examining Malaysian consumers, found that familiarity with producers and geographic proximity moderated the perceived importance of formal halal labelling. Similarly, Lada et al. (2009) demonstrated that subjective norms and community-level religious practice influenced halal product purchase intentions beyond formal label verification. These parallels suggest that cultural halal trust may operate across diverse Muslim-majority contexts, though its intensity likely varies with urbanisation levels, market anonymity, and the heterogeneity of the local producer population. Future comparative research across contexts with varying levels of cultural halal trust would enable more systematic testing of the boundary conditions of signalling theory in global halal markets.

This finding carries important implications for both policy and theory. From a policy perspective, it suggests that mandatory certification enforcement following the regulatory deadline established under Law Number 33 of 2014 may produce regulatory compliance without commensurate economic benefit in regions characterized by high default halal trust among consumers. The economic utility of certification in such contexts may be more pronounced in interregional or export markets, where consumer unfamiliarity with producers necessitates formal halal verification as a credible quality signal. Policymakers should therefore consider differentiated support strategies that simultaneously address structural supply-side barriers to certification and cultivate the demand-side conditions necessary to translate certification into tangible revenue gains.

From a theoretical perspective, the findings contribute to the growing body of literature on halal assurance systems by illuminating the mediating role of cultural context in shaping the economic effects of certification. The cultural halal trust construct carries important implications for how scholars and practitioners should understand the economic returns to halal certification across different market contexts. In Muslim-minority markets or urban commercial contexts with high consumer anonymity, formal certification carries higher marginal signal value because consumers cannot rely on social proximity to informal producer assurance. These contrasting contexts suggest that the revenue effects of halal certification are contingent on the prevailing level of cultural halal trust in the consumer market, a moderating variable that warrants systematic empirical investigation in future comparative studies across diverse Muslim-majority and Muslim-minority contexts.

5. CONCLUSION

This study examined the implementation, operator responses, and revenue implications of halal certification among culinary SMEs in Pamekasan Regency, Madura, Indonesia. The findings indicate that while awareness of halal certification obligations is relatively high among SME proprietors, substantive structural and behavioral barriers impede practical compliance. The most critical structural barrier is the absence of BPJPH-certified slaughterhouses in the region, which prevents meat-dependent culinary businesses from satisfying upstream supply chain requirements for certification. Administrative complexity and limited operator motivation further constrain certification uptake, despite active facilitation by multiple government agencies and the university-based Halal Center.

Contrary to theoretical expectations, halal certification has not produced a significant increase in SME revenue in Pamekasan Regency. This outcome is attributable to the cultural presumption among Muslim consumers in the region that locally produced food is inherently halal, which reduces the market signaling value of formal certification and eliminates the behavioral mechanism through which certification would ordinarily translate into consumer preference and revenue growth. These findings underscore the importance of accounting for cultural and contextual factors when assessing the economic utility of halal certification programs.

This study makes three principal theoretical and empirical contributions. First, it provides systematic empirical evidence of the structural supply chain barriers to halal certification compliance in a Muslim-majority Indonesian regency, demonstrating that the absence of certified upstream processing facilities constitutes an institutional bottleneck that individual operator facilitation cannot overcome. Second, it introduces the construct of cultural halal trust as a theoretically grounded explanation for the observed absence of revenue effects following halal certification, thereby advancing understanding of the socio-cultural boundary conditions of signalling theory in halal market contexts. Third, it identifies the gap between institutional certification supply and operator certification demand as a behavioral phenomenon that procedural simplification alone is unlikely to resolve, highlighting the need for complementary behavioral interventions in certification promotion strategies.

Several limitations of this study warrant explicit acknowledgement. First, the sample is small (n = 12) and geographically confined to a single regency, which restricts the transferability of findings to other regional or national contexts. Second, the study adopts a cross-sectional design, precluding observation of revenue trajectories over time, particularly in view of the ongoing phased implementation of mandatory certification enforcement under Law Number 33 of 2014. Third, revenue data were obtained through self-reporting by SME proprietors without independent verification against financial records, which introduces the possibility of recall bias and social desirability effects. Fourth, and most critically, the proposed explanation for the absence of revenue effects, namely the cultural default halal assumption among Madurese consumers, is inferential in character and was not substantiated by direct consumer-side empirical evidence. Future research should address these limitations through the adoption of longitudinal designs, objective financial data, and consumer-directed survey instruments.

Future research should investigate consumer behavioral dispositions toward halal labeling verification in regions exhibiting varying degrees of default halal trust, and should assess the long-term revenue effects of mandatory certification enforcement following full regulatory implementation. Comparative studies across Indonesian regencies with varying degrees of urbanization and market anonymity would be particularly valuable in testing the cultural halal trust construct. International comparative inquiry encompassing Muslim-majority economies such as Malaysia, Pakistan, and Turkey, as well as Muslim-minority contexts in Europe and North America, would further elucidate the boundary conditions of signalling theory in global halal markets. Longitudinal research designs incorporating objective financial performance data and consumer-side survey instruments would address the methodological limitations of the present study and enable stronger causal inference regarding the relationship between certification, cultural trust, and enterprise revenue performance.

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