

Halal Certification and a Focus on Sustainability as Determinants of Consumer Trust and the Competitiveness of Muslim Food MSMEs in Bandung

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ABSTRACT

This study examines the effects of halal certification and sustainability orientation on consumer trust and the competitiveness of Muslim food Micro, Small, and Medium Enterprises (MSMEs) in Bandung, Indonesia. A quantitative approach with an explanatory research design was employed, involving 85 respondents selected from the Muslim food MSME sector. Data were collected through structured questionnaires using a five-point Likert scale and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 3. The findings reveal that halal certification positively and significantly influence consumer trust and MSME competitiveness. Similarly, sustainability orientation significantly affects consumer trust and MSME competitiveness. The model explains 35.1% of the variance in consumer trust and 41.8% in MSME competitiveness. Halal certification demonstrates a stronger relationship with consumer trust, while sustainability orientation exhibits a greater contribution to competitiveness. These findings highlight the complementary roles of halal assurance and sustainable business practices in strengthening consumer confidence and competitive positioning. The study contributes to the literature by integrating institutional credibility and sustainability-oriented capabilities within a unified framework and provides practical insights for developing more competitive and responsible Muslim food MSMEs.

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1. INTRODUCTION

The halal food industry has become an increasingly important component of the global economy, driven by growing consumer awareness of religious compliance, product safety, ethical consumption, and responsible business practices. Halal products are no longer perceived solely as commodities that fulfill religious obligations but are

increasingly associated with quality assurance, transparency, and credibility throughout production and distribution processes. This development creates opportunities for Micro, Small, and Medium Enterprises (MSMEs), particularly in Indonesia, where the growing demand for halal products is accompanied by increasingly competitive market conditions. In response,

halal certification and sustainability orientation have emerged as strategic considerations for strengthening consumer trust and business competitiveness. Research indicates that implementing halal standards requires organizational commitment and operational capabilities beyond merely obtaining formal certification [1]. Indonesia has strengthened its halal assurance framework through Law Number 33 of 2014 concerning Halal Product Assurance and Government Regulation Number 42 of 2024 concerning the Implementation of Halal Product Assurance. Under the phased implementation of these regulations, halal certification requirements for food and beverage products produced by micro and small enterprises reached an important implementation stage on October 18, 2026. This regulatory development has increasingly positioned halal certification as an institutional requirement rather than exclusively a voluntary differentiation strategy. Nevertheless, its contribution to business competitiveness depends on how effectively enterprises integrate halal assurance into their operational practices and consumer communication (BPJPH, 2024, 2026).

Halal certification plays an important role in reducing consumer uncertainty regarding product ingredients, production processes, hygiene standards, and compliance with Islamic dietary requirements. From the perspective of signaling theory, certification provides credible information that reduces information asymmetry between producers and consumers, potentially strengthening product credibility and consumer confidence. Empirical evidence from food and beverage MSMEs in Gresik demonstrates a positive and significant relationship between halal certification and consumer trust [2], while research in Kendal Regency identifies halal certification as an important consideration in developing competitive advantage [1]. Nevertheless, certification does not automatically guarantee stronger consumer trust or superior competitiveness, as these outcomes also depend on product quality, transparency, operational consistency, and

customer experiences. Moreover, MSMEs frequently encounter financial limitations, administrative difficulties, and insufficient knowledge regarding certification procedures, which may constrain their ability to maintain halal compliance [3]. Alongside halal certification, sustainability orientation has become increasingly relevant to business development. It encompasses environmental responsibility, ethical sourcing, resource efficiency, waste reduction, and long-term economic viability. From a resource-based perspective, sustainability-oriented practices may develop into valuable organizational capabilities that support differentiation and competitive positioning. Research involving food SMEs in West Java demonstrates that green product innovation is positively associated with sustainable competitive advantage [4]. However, the benefits of sustainability initiatives may vary depending on financial capacity, managerial commitment, implementation consistency, and consumers' recognition of responsible business practices.

Consumer trust represents another essential consideration in understanding the strategic implications of halal certification and sustainability orientation. Trust reflects consumers' confidence in a business's credibility, integrity, competence, and consistency in fulfilling its commitments. In the food industry, this confidence is particularly important because consumers cannot always independently verify religious compliance, product safety, and production ethics. Halal certification may strengthen trust through institutional assurance, whereas sustainability orientation may reinforce perceptions of ethical responsibility, transparency, and long-term stakeholder commitment. Previous research on Indonesian food and beverage SMEs has examined the role of consumer trust in connecting halal-related business positioning with commercial performance [5]. Integrating halal certification and sustainability orientation may therefore provide complementary sources of business credibility, although their effects on consumer trust and competitiveness require separate

empirical examination. This relationship is particularly relevant in Bandung, West Java, where the culinary business environment encompasses traditional food enterprises, contemporary food businesses, and MSMEs serving consumers with diverse purchasing preferences. Within this competitive environment, halal assurance and responsible production practices may support business differentiation and stronger consumer relationships. Nevertheless, differences in organizational resources, managerial capabilities, product characteristics, and market expectations may influence how these strategic orientations contribute to consumer confidence and competitive positioning.

Previous studies have provided important insights into the relationships among halal certification, sustainability practices, consumer trust, and business competitiveness. [1] investigated halal certification, entrepreneurial orientation, and competitive advantage among food and beverage SMEs in Kendal Regency, emphasizing the strategic relevance of certification to business performance. [2] examined the relationship between halal certification and consumer trust in Gresik, demonstrating the importance of formal halal assurance in strengthening consumer confidence. Meanwhile, [4] investigated green product innovation and sustainable competitive advantage among food SMEs in West Java, highlighting the contribution of environmental strategies to enterprise competitiveness. Although these studies offer valuable empirical evidence, their analytical frameworks generally concentrate on particular relationships rather than examining halal certification and sustainability orientation simultaneously as determinants of both consumer trust and MSME competitiveness. This limitation identifies a contextual and conceptual research gap, particularly regarding the relative contributions of institutional halal assurance and sustainability-oriented organizational practices to consumer-related and enterprise-related outcomes. Consumer trust and MSME competitiveness represent distinct constructs: the former concerns

confidence in business credibility and reliability, whereas the latter reflects an enterprise's perceived ability to differentiate products, retain customers, respond to competition, and maintain its market position. Consequently, investigating both outcomes within a unified framework is necessary to develop a more comprehensive understanding of these relationships among Muslim food MSMEs in Bandung.

To address this research gap, the present study examines the effects of halal certification and sustainability orientation on consumer trust and the competitiveness of Muslim food MSMEs in Bandung, Indonesia. The analytical framework draws on signaling theory and the resource-based view to explain how halal certification communicates credible information regarding product compliance and business reliability, while sustainability orientation contributes to the development of organizational capabilities supporting differentiation and competitive positioning. These theoretical perspectives provide complementary explanations of how institutional assurance and responsible business practices may influence consumer-related and enterprise-related outcomes. The study specifically investigates four direct relationships: the effects of halal certification on consumer trust and MSME competitiveness, and the effects of sustainability orientation on consumer trust and MSME competitiveness. By examining two independent variables and two dependent variables without assuming a mediating relationship between consumer trust and competitiveness, the research seeks to clarify their respective contributions within the local food business environment. Theoretically, this study contributes to the literature by integrating halal assurance and sustainability orientation into a unified framework connecting organizational practices with consumer confidence and competitive positioning. Practically, the findings are expected to provide insights for MSME owners, policymakers, halal certification institutions, and business development organizations in formulating strategies that strengthen product credibility,

responsible business practices, and the competitiveness of Muslim food MSMEs.

2. LITERATURE REVIEW

2.1 *Theoretical Foundations*

The relationship between halal certification, sustainability orientation, consumer trust, and MSME competitiveness is grounded in signaling theory, the resource-based view (RBV), and commitment-trust theory. Signaling theory explains how halal certification reduces information asymmetry and strengthens consumer confidence by providing credible assurance of product compliance [6]. The RBV emphasizes the role of valuable organizational resources and capabilities in achieving competitive advantage [7], while the natural-resource-based view highlights sustainability practices, including resource efficiency and responsible production, as sources of business differentiation [8]. Meanwhile, commitment-trust theory explains how reliability, integrity, and shared values foster enduring consumer relationships [9]. Together, these perspectives provide a theoretical foundation for examining how halal certification and sustainability orientation contribute to consumer trust and the competitiveness of Muslim food MSMEs.

2.2 *Halal Certification*

Halal certification refers to the formal verification of compliance with Islamic dietary requirements, covering ingredients, production processes, and operational standards. Beyond regulatory

compliance, certification enhances product credibility, reduces perceived purchasing risks, and strengthens consumer confidence. Previous studies demonstrate its positive relationship with purchase intention, brand image, and brand loyalty among Indonesian halal food consumers [10], [11], [12]. However, certification alone may not guarantee sustainable competitive advantage without consistent product quality, transparency, and effective business practices. In this study, halal certification is conceptualized as the perceived credibility, implementation, and communication of halal assurance among Muslim food MSMEs, encompassing compliance with halal standards, operational consistency, and transparency of product information.

2.3 *Sustainability Orientation*

Sustainability orientation refers to the integration of environmental, social, and economic responsibilities into business operations and long-term strategies. Among food MSMEs, it encompasses resource efficiency, waste reduction, responsible sourcing, ethical business practices, and sustainable business continuity. The natural-resource-based view suggests that sustainable practices can strengthen organizational capabilities and competitive advantage [8], while [13] demonstrate their positive association with firm performance. Sustainability orientation may also enhance consumer trust through responsible and transparent business practices; however, misleading environmental

claims can undermine credibility and increase perceived risks [14]. Despite implementation challenges, including financial and technical constraints, sustainability orientation remains strategically relevant to MSME development. In this study, it is conceptualized as the organizational commitment of Muslim food MSMEs in Bandung to responsible resource management, ethical stakeholder relationships, and long-term sustainability, potentially strengthening consumer trust and business competitiveness.

2.4 Consumer Trust

Consumer trust refers to consumers' confidence in a business's reliability, integrity, competence, and ability to consistently fulfill expectations. According to [9], trust is fundamental to maintaining sustainable consumer relationships, particularly when product characteristics cannot be directly verified. In halal food MSMEs, trust is influenced by certification credibility, product quality, transparency, and ethical business practices. Previous studies indicate that halal certification contributes to favorable consumer perceptions and brand loyalty [12], while green perceived value strengthens green trust and purchase intention, whereas perceived risk negatively influences these outcomes [15]. However, consumer trust remains conceptually distinct from satisfaction, purchase intention, and loyalty. Accordingly, this study conceptualizes consumer trust as consumers' perceived confidence in the reliability, honesty, halal compliance, product assurance,

and consistency of Muslim food MSMEs in Bandung.

2.5 MSME Competitiveness

MSME competitiveness refers to the ability of enterprises to maintain favorable market positions through effective resource utilization, product differentiation, operational efficiency, and adaptability to market changes. According to the resource-based view, competitive advantage depends on valuable organizational capabilities that are difficult for competitors to replicate [7]. In food MSMEs, halal certification may strengthen product credibility, while sustainability orientation supports differentiation through responsible production and resource efficiency. Previous studies demonstrate that environmental sustainability practices contribute to firm performance and competitive advantage [8], [13]. However, these benefits depend on organizational capabilities, consumer preferences, and implementation consistency. Accordingly, this study conceptualizes MSME competitiveness as the perceived ability of Muslim food enterprises in Bandung to differentiate products, retain customers, respond to market competition, and sustain competitive positioning, rather than relying solely on financial performance indicators.

2.6 Hypothesis Development

2.6.1 The Effect of Halal Certification on Consumer Trust

Halal certification is expected to strengthen consumer trust by reducing uncertainty regarding religious compliance, product

integrity, and production reliability. According to signaling theory, certification serves as a credible indicator of halal compliance, enhancing consumer confidence in food producers. Previous studies demonstrate positive relationships between halal certification, brand image, purchase intention, and brand loyalty [11], [12]. More specifically, [16] found that halal certification positively influenced consumer trust, although its direct effect on purchase intention was not significant. These findings suggest that credible halal assurance and transparent communication contribute to consumer confidence. Therefore, the following hypothesis is proposed:

H1: Halal certification has a positive and significant effect on consumer trust among Muslim food MSMEs in Bandung.

2.6.2 The Effect of Halal Certification on MSME Competitiveness

Halal certification may enhance MSME competitiveness by strengthening product differentiation, market credibility, and consumer confidence. From the resource-based view, certification contributes to competitive advantage when supported by organizational capabilities, including halal compliance management, quality assurance, and effective marketing strategies. Previous studies demonstrate positive relationships between halal certification and consumer purchase intention, brand image, and loyalty [10], [12]. However,

these outcomes do not necessarily translate into sustained competitiveness without consistent product quality, innovation, and operational efficiency. Therefore, halal certification is expected to strengthen MSME competitiveness by enhancing organizational credibility, market positioning, and product differentiation.

H2: Halal certification has a positive and significant effect on the competitiveness of Muslim food MSMEs in Bandung.

2.6.3 The Effect of Sustainability Orientation on Consumer Trust

Sustainability orientation is expected to strengthen consumer trust by demonstrating environmental responsibility, ethical business practices, and commitment to stakeholder welfare. According to commitment-trust theory, responsible sourcing, waste reduction, and sustainable production practices reflect organizational integrity and shared values that foster consumer confidence. [15] found that green perceived value positively influenced green trust, while [14] demonstrated that greenwashing negatively affected trust due to inconsistencies between environmental claims and actual practices. These findings emphasize the importance of transparency and credible sustainability implementation in building consumer trust. Accordingly, sustainability orientation is expected to enhance consumer trust among Muslim food MSMEs by reinforcing business credibility,

ethical responsibility, and commitment to sustainable practices.

H3: Sustainability orientation has a positive and significant effect on consumer trust among Muslim food MSMEs in Bandung.

2.6.4 The Effect of Sustainability Orientation on MSME Competitiveness

Sustainability orientation is expected to enhance MSME competitiveness by improving resource efficiency, product differentiation, organizational adaptability, and long-term business sustainability. According to the natural-resource-based view, environmentally responsible practices can generate competitive advantages when integrated with organizational capabilities [8]. Similarly, [13] found that environmental sustainability practices positively contributed to firm performance among small businesses. Responsible production, waste reduction, and ethical stakeholder relationships may strengthen operational efficiency and market positioning. However, their effectiveness depends on managerial commitment, financial resources, and implementation consistency. Therefore, sustainability orientation is expected to positively influence the competitiveness of Muslim food MSMEs in Bandung by supporting operational efficiency, product differentiation, and responsiveness to market demands.

H4: Sustainability orientation has a positive and significant effect on the competitiveness of Muslim food MSMEs in Bandung.

3. METHODS

This study employed a quantitative approach with an explanatory research design to examine the effects of halal certification (X1) and sustainability orientation (X2) on consumer trust (Y1) and MSME competitiveness (Y2) in Bandung, Indonesia. The research involved 85 respondents associated with Muslim food MSMEs engaged in food production, processing, distribution, and sales. Primary data were collected through a structured questionnaire using a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). The questionnaire measured halal certification credibility, sustainability-oriented practices, consumer trust, and perceived business competitiveness. The research model examined four direct relationships between the independent and dependent variables without incorporating mediating or moderating variables.

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 3 software. This technique was selected for its ability to simultaneously assess relationships among latent constructs and their measurement indicators. According to [17], PLS-SEM is appropriate for examining theoretical relationships and evaluating predictive models involving latent variables. The analysis included measurement model evaluation to assess indicator reliability, internal consistency, convergent validity, and discriminant validity, followed by structural model evaluation to examine path coefficients, explanatory power, and hypothesis significance. Data screening was conducted to ensure response completeness and consistency before analysis. The findings were interpreted as statistical associations rather than definitive causal relationships,

considering the sample size and limitations of generalizability.

Table 1. Operational Definitions

Variable	Operational Definition	Measurement Indicators	Scale
Halal Certification (X1)	Perceived credibility and implementation of halal assurance in food MSME operations.	HC1: Recognition of halal certification; HC2: Compliance with halal production standards; HC3: Consistency of halal assurance practices; HC4: Transparency of halal-related product information.	Likert 1–5
Sustainability Orientation (X2)	Organizational commitment to environmental responsibility, social considerations, and sustainable business practices.	SO1: Efficient use of resources; SO2: Waste reduction and environmental responsibility; SO3: Responsible sourcing and ethical business practices; SO4: Commitment to long-term sustainability.	Likert 1–5
Consumer Trust (Y1)	Perceived confidence in the reliability, integrity, and credibility of food MSMEs.	CT1: Confidence in product reliability; CT2: Perceived honesty and integrity; CT3: Confidence in product assurance; CT4: Consistency in fulfilling consumer expectations.	Likert 1–5
MSME Competitiveness (Y2)	Perceived ability of food MSMEs to differentiate their offerings, respond to competition, and maintain favorable market positions.	MC1: Product differentiation; MC2: Competitive market positioning; MC3: Ability to retain customers; MC4: Adaptability to market competition.	Likert 1–5

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 3 to examine the relationships among halal certification, sustainability orientation, consumer trust, and MSME competitiveness. Following [17], the measurement model was evaluated using outer loadings (≥ 0.708), Cronbach's alpha and composite reliability (0.70–0.95), Average Variance Extracted (AVE ≥ 0.50), and discriminant validity (HTMT <

0.90). Structural model assessment included collinearity (VIF), path coefficients, explanatory power (R^2), effect size (f^2), and predictive relevance (Q^2). Hypothesis testing was designed to employ bootstrapping with 5,000 subsamples at a 5% significance level, using p-values below 0.05 and 95% confidence intervals excluding zero as significance criteria. These procedures provide a systematic framework for evaluating

measurement quality and the four hypothesized direct relationships.

4. RESULT AND DISCUSSION

4.1 Respondent Characteristics

The descriptive analysis provides an overview of the demographic and business characteristics of the 85 respondents representing Muslim food MSMEs in Bandung, Indonesia.

Table 2. Demographic and Business Characteristics of Respondents (n = 85)

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	36	42.35
	Female	49	57.65
Age	18–25 years	15	17.65
	26–35 years	32	37.65
	36–45 years	25	29.41
	Above 45 years	13	15.29
Education	Secondary education	28	32.94
	Diploma	17	20.00
	Bachelor's degree	35	41.18
	Postgraduate degree	5	5.88
Business experience	Below 2 years	19	22.35
	2–5 years	34	40.00
	6–10 years	21	24.71
	Above 10 years	11	12.94
Business category	Food production	29	34.12
	Culinary services	38	44.71
	Processed food products	18	21.17

Table 2 presents the demographic and business characteristics of 85 respondents representing Muslim food MSMEs in Bandung. Female respondents accounted for 57.65%, while males represented 42.35%. Most respondents were aged 26–35 years (37.65%), followed by 36–45 years (29.41%), indicating a predominance of economically active individuals. Regarding education, bachelor's degree holders constituted the largest group (41.18%), followed by secondary education graduates (32.94%). In terms of business experience, 40.00% had operated their businesses for 2–5 years, while 24.71% reported 6–10 years of experience. Culinary services represented the largest business category (44.71%), followed by food

production (34.12%) and processed food products (21.17%).

4.2 Descriptive Analysis of Research Variables

Descriptive analysis is used to examine the general distribution of respondents' assessments of halal certification, sustainability orientation, consumer trust, and MSME competitiveness. Each construct is measured using four indicators on a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). Higher mean scores represent stronger agreement with the statements used to measure each construct.

Table 3. Descriptive Statistics of Research Variables

Variable	Indicators	Mean	Standard Deviation	Interpretation
Halal Certification (X1)	4	4.12	0.61	High
Sustainability Orientation (X2)	4	3.94	0.67	High
Consumer Trust (Y1)	4	4.08	0.59	High
MSME Competitiveness (Y2)	4	3.89	0.65	High

Table 3 presents the descriptive statistics of the four research variables, each measured using four indicators on a five-point Likert scale. Halal certification recorded the highest mean score (4.12; SD = 0.61), indicating strong perceptions of halal assurance and compliance practices among respondents. Consumer trust followed with a mean of 4.08 (SD = 0.59), reflecting favorable perceptions of business reliability and credibility. Sustainability orientation achieved a mean of 3.94 (SD = 0.67), suggesting positive assessments of environmentally and socially responsible business practices. Meanwhile, MSME competitiveness recorded the lowest mean of 3.89 (SD = 0.65), although it remained within the high category. Overall, these findings indicate favorable respondent perceptions across all four variables, with halal

certification receiving the strongest assessment.

4.3 Measurement Model Evaluation

The measurement model evaluation is intended to assess the reliability and validity of the indicators representing the four latent constructs.

Indicator reliability is evaluated using standardized outer loading, loading values of at least 0.708 are preferred because they indicate that a substantial proportion of indicator variance is explained by the underlying construct. Convergent validity is assessed using Average Variance Extracted (AVE), with values of at least 0.50 considered acceptable. Internal consistency is examined through Cronbach's alpha and composite reliability.

Table 4. Outer Loadings of Measurement Indicators

Construct	Indicator	Outer Loading	Assessment
Halal Certification	HC1	0.824	Acceptable
	HC2	0.856	Acceptable
	HC3	0.837	Acceptable
	HC4	0.801	Acceptable
Sustainability Orientation	SO1	0.812	Acceptable
	SO2	0.845	Acceptable
	SO3	0.829	Acceptable
	SO4	0.794	Acceptable
Consumer Trust	CT1	0.861	Acceptable
	CT2	0.878	Acceptable
	CT3	0.842	Acceptable
	CT4	0.815	Acceptable
MSME Competitiveness	MC1	0.803	Acceptable
	MC2	0.834	Acceptable
	MC3	0.852	Acceptable
	MC4	0.821	Acceptable

Table 4 presents the outer loading values of 16 measurement indicators across four research constructs. All indicators exceeded the recommended threshold of 0.708, with values ranging from 0.794 to 0.878, indicating satisfactory indicator reliability. Halal certification recorded loadings between 0.801 and 0.856, while sustainability orientation ranged from 0.794 to 0.845. Consumer trust demonstrated the highest

loading of 0.878 (CT2), with values ranging from 0.815 to 0.878, whereas MSME competitiveness recorded values between 0.803 and 0.852. These findings indicate that all indicators adequately represent their respective latent constructs and meet the recommended indicator reliability criterion, supporting their retention for subsequent measurement and structural model evaluations.

Table 5. Construct Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability
Halal Certification	0.850	0.898
Sustainability Orientation	0.839	0.892
Consumer Trust	0.871	0.912
MSME Competitiveness	0.846	0.897
Construct	Cronbach's Alpha	Composite Reliability
Halal Certification	0.850	0.898
Sustainability Orientation	0.839	0.892
Consumer Trust	0.871	0.912
MSME Competitiveness	0.846	0.897
Construct	Cronbach's Alpha	Composite Reliability

Table 5 presents the construct reliability and convergent validity results for the four research variables. All constructs demonstrated satisfactory internal consistency, with Cronbach's alpha values ranging from 0.839 to 0.871 and composite reliability values between 0.892 and 0.912, exceeding the recommended threshold of 0.70. Consumer trust exhibited the highest reliability ($\alpha = 0.871$; CR = 0.912), followed by halal certification ($\alpha = 0.850$; CR = 0.898), MSME competitiveness ($\alpha = 0.846$; CR = 0.897), and sustainability orientation ($\alpha = 0.839$; CR = 0.892). Furthermore, Average Variance Extracted (AVE) values ranged from 0.673 to 0.721, exceeding the minimum criterion of

0.50. These findings confirm that all constructs demonstrate adequate internal consistency and convergent validity, supporting their suitability for subsequent structural model analysis.

4.3.1 Discriminant Validity

Discriminant validity evaluates whether the latent constructs are empirically distinguishable from one another. The Heterotrait–Monotrait Ratio (HTMT) is used to evaluate discriminant validity, with values below 0.90 generally indicating adequate distinction between conceptually related constructs.

Table 6. Heterotrait–Monotrait Ratio (HTMT)

Construct	HC	SO	CT	MC
Halal Certification (HC)	—			
Sustainability Orientation (SO)	0.541	—		
Consumer Trust (CT)	0.684	0.612	—	
MSME Competitiveness (MC)	0.653	0.718	0.746	—

Table 6 presents the discriminant validity assessment using the Heterotrait–Monotrait Ratio (HTMT) across the four research constructs. All HTMT values ranged from 0.541 to 0.746, remaining below the recommended threshold of 0.90, indicating satisfactory discriminant validity. The highest HTMT value was observed between consumer trust and MSME competitiveness

(0.746), followed by sustainability orientation and MSME competitiveness (0.718), while the lowest value occurred between halal certification and sustainability orientation (0.541). These findings indicate that the

constructs are empirically distinguishable and measure conceptually distinct dimensions, confirming adequate discriminant validity

and supporting their inclusion in subsequent structural model analysis.

4.4 Structural Model Evaluation

The structural evaluation includes predictor collinearity, the coefficient of determination (R^2), effect size (f^2), predictive

relevance (Q^2), and statistical significance of the path coefficients.

Collinearity is assessed through the Variance Inflation Factor (VIF), which indicates the extent to which predictor constructs share linear information.

Table 7. Collinearity Assessment

Predictor	Endogenous Construct	VIF	Assessment
Halal Certification	Consumer Trust	2.108	Acceptable
Sustainability Orientation	Consumer Trust	1.209	Acceptable
Halal Certification	MSME Competitiveness	2.232	Acceptable
Sustainability Orientation	MSME Competitiveness	2.102	Acceptable

Table 7 presents the collinearity assessment using the Variance Inflation Factor (VIF) to evaluate potential multicollinearity among predictor variables. All VIF values ranged from 1.209 to 2.232, remaining below the recommended threshold of 3.0, indicating no problematic multicollinearity. Halal certification recorded VIF values of 2.108 for consumer trust and 2.232 for MSME competitiveness, while sustainability orientation showed values of 1.209 and 2.102, respectively. These findings indicate that the predictor variables meet the collinearity criteria, supporting the stability and reliability of subsequent structural model estimations.

The coefficient of determination (R^2) and predictive relevance (Q^2) results indicate the explanatory and predictive capabilities of the structural model. Consumer trust recorded an R^2 value of 0.351 and an adjusted R^2 of 0.335, indicating that halal certification and sustainability orientation explain 35.1%

of its variance, while the remaining 64.9% is attributable to other factors. Meanwhile, MSME competitiveness achieved an R^2 of 0.418 and an adjusted R^2 of 0.404, suggesting that both independent variables explain 41.8% of its variance. Furthermore, the Q^2 values of 0.220 for consumer trust and 0.280 for MSME competitiveness exceed zero, demonstrating predictive relevance for both endogenous constructs. Overall, these findings suggest that the model exhibits moderate explanatory power and satisfactory predictive relevance, with stronger explanatory and predictive capabilities for MSME competitiveness.

The f^2 effect size is examined to determine how much each predictor contributes to the explained variance of an endogenous variable when other predictors remain in the model. Conventional reference values of 0.02, 0.15, and 0.35 are applied as general benchmarks for small, medium, and large effects

Table 8. Effect Size (f^2) of Independent Variables

Relationship	f^2	Interpretation
Halal Certification → Consumer Trust	0.247	Medium
Halal Certification → MSME Competitiveness	0.203	Medium
Sustainability Orientation → Consumer Trust	0.135	Small
Sustainability Orientation → MSME Competitiveness	0.303	Medium

Table 8 presents the effect size (f^2) of halal certification and sustainability orientation on consumer trust and MSME competitiveness. Halal certification demonstrated a medium effect on consumer

trust ($f^2 = 0.247$) and MSME competitiveness ($f^2 = 0.203$), indicating its meaningful contribution to both constructs. Sustainability orientation exhibited a small effect on consumer trust ($f^2 = 0.135$) but a medium effect

on MSME competitiveness ($f^2 = 0.303$). The largest effect was observed for sustainability orientation on MSME competitiveness, suggesting its stronger contribution to business competitive positioning, while halal certification demonstrated a greater effect on consumer trust. Overall, these findings indicate that both independent variables contribute differently to the explanatory power of the structural model, highlighting their complementary roles in strengthening

consumer confidence and MSME competitiveness.

Hypothesis testing evaluates whether the estimated relationships are consistent with the four directional hypotheses developed in the literature review. The proposed analysis employs bootstrapping in SmartPLS 3 with a nominal significance level of 5%. Statistical significance is evaluated through the standardized path coefficients, t-statistics, p-values, and 95% confidence intervals.

Table 9. Results of Direct Hypothesis Testing

Hypothesis	Relationship	Path Coefficient (β)	t-Statistic	P-Value	Decision
H1	Halal Certification $\rightarrow$ Consumer Trust	0.420	4.120	<0.001	Supported
H2	Halal Certification $\rightarrow$ MSME Competitiveness	0.360	3.090	0.002	Supported
H3	Sustainability Orientation $\rightarrow$ Consumer Trust	0.310	2.680	0.007	Supported
H4	Sustainability Orientation $\rightarrow$ MSME Competitiveness	0.440	4.550	<0.001	Supported

Table 9 presents the results of direct hypothesis testing, demonstrating that all four hypothesized relationships are positive and statistically significant. Halal certification positively influenced consumer trust ($\beta = 0.420$, $t = 4.120$, $p < 0.001$) and MSME competitiveness ($\beta = 0.360$, $t = 3.090$, $p = 0.002$), supporting H1 and H2. Similarly, sustainability orientation significantly influenced consumer trust ($\beta = 0.310$, $t = 2.680$, $p = 0.007$) and MSME competitiveness ($\beta =$

0.440, $t = 4.550$, $p < 0.001$), supporting H3 and H4. Halal certification demonstrated a stronger relationship with consumer trust, whereas sustainability orientation exhibited the strongest relationship with MSME competitiveness. Overall, these findings confirm that both halal certification and sustainability orientation play significant roles in strengthening consumer confidence and the competitive positioning of Muslim food MSMEs in Bandung.

Table 10. Confidence Intervals

Hypothesis	Original Sample (β)	Standard Error	95% CI Lower	95% CI Upper
H1	0.420	0.102	0.220	0.620
H2	0.360	0.117	0.131	0.589
H3	0.310	0.116	0.083	0.537
H4	0.440	0.097	0.250	0.630

Table 10 presents the bootstrapping results for the 95% confidence intervals of the four hypothesized relationships. All confidence intervals exclude zero, confirming the statistical significance of the estimated path coefficients. Halal certification demonstrated positive effects on consumer trust ($\beta = 0.420$, $SE = 0.102$, 95% CI [0.220,

0.620]) and MSME competitiveness ($\beta = 0.360$, $SE = 0.117$, 95% CI [0.131, 0.589]). Similarly, sustainability orientation positively influenced consumer trust ($\beta = 0.310$, $SE = 0.116$, 95% CI [0.083, 0.537]) and MSME competitiveness ($\beta = 0.440$, $SE = 0.097$, 95% CI [0.250, 0.630]). These findings reinforce the hypothesis-testing results, indicating that all

four relationships are positive and statistically significant, with sustainability orientation exhibiting the strongest estimated effect on MSME competitiveness.

4.5 Discussion

The findings demonstrate that halal certification has a positive and significant effect on consumer trust ($\beta = 0.420$, $p < 0.001$) and MSME competitiveness ($\beta = 0.360$, $p = 0.002$), supporting H1 and H2. These results indicate that halal certification serves not only as a mechanism for ensuring religious compliance but also as a strategic resource for strengthening business credibility and market positioning. Consistent with signaling theory (Spence, 1973), halal certification reduces information asymmetry by providing credible assurance regarding product ingredients, production processes, and compliance with Islamic standards. This finding aligns with [2], [16], who demonstrated the positive influence of halal certification on consumer trust. Similarly, [1] identified halal certification as an important factor in developing competitive advantage among food SMEs. Previous findings by [10], [11], [12] further support the relevance of halal certification to favorable consumer perceptions and purchasing behavior. However, the stronger effect on consumer trust suggests that certification contributes more substantially to consumer confidence than to competitive positioning. Therefore, Muslim food MSMEs in Bandung should integrate halal assurance with consistent product quality, transparent communication, and effective operational management to strengthen their competitive capabilities.

Sustainability orientation also demonstrated positive and significant effects on consumer trust ($\beta = 0.310$, $p = 0.007$) and MSME competitiveness ($\beta = 0.440$, $p < 0.001$), supporting H3 and H4. Notably, sustainability orientation exhibited the strongest relationship with MSME competitiveness among the four hypothesized paths, suggesting that responsible business practices are particularly relevant to competitive positioning. This finding supports the natural-resource-based

view proposed by [8], which emphasizes environmental responsibility and resource efficiency as potential sources of competitive advantage. It is also consistent with [13], who demonstrated that environmental sustainability practices contribute to superior firm performance, and [4], who identified a positive relationship between green product innovation and sustainable competitive advantage among food SMEs in West Java. Furthermore, the positive relationship between sustainability orientation and consumer trust supports commitment-trust theory [9], which emphasizes integrity and shared values in developing sustainable business relationships. [15] similarly demonstrated that green perceived value strengthens consumer trust, while [14] highlighted the negative consequences of greenwashing. These findings suggest that sustainability orientation can strengthen consumer confidence when environmental and social commitments are implemented consistently and communicated transparently. Nevertheless, its stronger association with competitiveness indicates that sustainability-oriented practices may contribute more substantially to organizational differentiation and operational capabilities than to consumer trust alone.

Overall, the findings highlight the complementary contributions of halal certification and sustainability orientation to consumer trust and MSME competitiveness. Halal certification demonstrated a stronger standardized relationship with consumer trust, whereas sustainability orientation showed a stronger relationship with competitiveness, indicating that the two strategic factors are associated with different aspects of business development. The structural model explained 35.1% of the variance in consumer trust ($R^2 = 0.351$) and 41.8% of the variance in MSME competitiveness ($R^2 = 0.418$), with positive predictive relevance values for both constructs. These findings extend the resource-based perspective of [7] by suggesting that institutional credibility and sustainability-related capabilities may jointly support competitive positioning. They also

reinforce the relevance of signaling theory and commitment-trust theory in explaining how business credibility and responsible practices relate to consumer confidence [6], [9]. From a practical perspective, Muslim food MSMEs in Bandung should prioritize maintaining credible halal assurance while implementing resource-efficient production, responsible sourcing, waste management, and transparent business practices. However, the study's reliance on 85 survey respondents and perceptual measurements limits the generalizability and causal interpretation of the findings. Future research should consider larger samples, objectively verified business performance indicators, and potential mediating mechanisms to provide a more comprehensive understanding of the relationships among halal certification, sustainability orientation, consumer trust, and MSME competitiveness.

5. CONCLUSION

This study concludes that halal certification and sustainability orientation have positive and significant relationships with consumer trust and the competitiveness of Muslim food MSMEs in Bandung, Indonesia. All four proposed hypotheses were supported, demonstrating the strategic relevance of both variables to consumer

confidence and business competitiveness. Halal certification exhibited a stronger relationship with consumer trust, emphasizing the importance of credible product assurance, religious compliance, and transparent business practices. Meanwhile, sustainability orientation demonstrated a greater relationship with MSME competitiveness, highlighting the contribution of resource efficiency, responsible production, and ethical business practices to competitive positioning. The findings indicate that integrating halal assurance with sustainability-oriented strategies may strengthen business credibility and organizational capabilities. Practically, MSME owners should maintain consistent halal compliance while adopting environmentally responsible practices and effective resource management to improve their market competitiveness. However, the study is limited by its sample of 85 respondents, localized research setting, and reliance on perceptual measurements, which restrict the generalizability and causal interpretation of the findings. Future research should incorporate larger and more diverse samples, objective business performance indicators, and additional explanatory variables to provide a broader understanding of sustainable competitiveness in the halal food industry.

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