



Halal certification and logistics business performance: The role of institutional pressure, organizational readiness, and cost-benefit perception

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ABSTRACT

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This study aims to examine the effects of institutional pressure, organizational readiness, and cost-benefit perception on halal certification implementation and to investigate the mediating role of halal certification implementation in improving the business performance of logistics service companies in Indonesia. A quantitative research design was employed using a survey of 215 managerial-level respondents from food logistics, cold chain, and distribution warehouse companies. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine both direct and indirect relationships among the proposed constructs. The findings indicate that institutional pressure, organizational readiness, and cost-benefit perception have positive and significant effects on halal certification implementation, with organizational readiness emerging as the strongest predictor. Furthermore, halal certification implementation has a positive and significant effect on business performance and partially mediates the relationships between the three antecedent variables and business performance. These findings suggest that the organizational benefits of halal certification are more likely to be realized when companies possess strong managerial commitment, adequate organizational readiness, and integrated operational systems that support consistent implementation. This study extends the application of Institutional Theory and Organizational Readiness Theory within the context of halal logistics services by demonstrating that halal certification implementation functions as a strategic mechanism linking external institutional pressures, internal organizational capabilities, and managerial cost-benefit evaluations to business performance. The findings also provide practical implications for logistics companies and policymakers in strengthening halal certification implementation as a strategic approach to enhancing organizational performance and supporting the development of Indonesia's halal logistics ecosystem.

Contribution/Originality: This study contributes to the existing literature by demonstrating that halal certification implementation serves as a strategic mediating mechanism linking institutional pressure, organizational readiness, and cost-benefit perception to business performance in Indonesia's halal logistics service sector.

1. INTRODUCTION

The expansion of the global halal economy proves that halal is now regarded as an integral component of the supply chain. This includes, but is not limited to, storage, transportation, and distribution, rather than merely a

product attribute. Halal integrity is now not only part of the production process but also of a company's capacity to uphold consistent halal standards across the entire logistics chain. According to the State of the Global Islamic Economy report, as Muslim consumers become more aware of product safety, traceability, and integrity, this is prompting companies to reinforce their halal systems more comprehensively (Akram, 2022). Consequently, the logistics services sector is pivotal in sustaining the credibility of the contemporary halal system.

Indonesia is a relevant country to examine this issue because the implementation of Law Number 33 of 2014 concerning Halal Product Assurance has increased regulatory pressure on businesses, including logistics companies. These regulations not only create administrative obligations but also impose economic consequences on companies that fail to comply with halal standards. From a regulatory economics perspective, regulatory pressure can be understood as a mechanism that encourages organizations to adjust their operational behavior to reduce market risk, the costs of non-compliance, and the loss of business legitimacy. Becker's theory of regulatory compliance explains that companies tend to comply with regulations when the economic benefits and legitimacy gained are perceived to outweigh the costs of non-compliance or the risk of market loss (Sutinen & Kuperan, 1999). Compliance with halal certification is not only about legal obligations but also about maintaining market access and the trust of Muslim consumers.

However, while legislation can theoretically increase regulatory pressure and compliance, in practice, many food logistics, cold chain, and warehousing companies in Indonesia still lack halal certification (Karudin, Shaharudin, & Zainoddin, 2025). This is despite the Institutional Theory literature suggesting that companies will quickly respond to policies under regulatory, normative, and mimetic pressure, even though the adoption of halal certification has not been fully integrated into company operations, as its implementation is intended only to secure social legitimacy.

This gap between compliance with regulations for halal certification and implementation in operational activities explains the study by Susanty, Puspitasari, Jati, and Selvina (2022), which found that halal implementation often shows inconsistent results on company business performance. We argue that this inconsistency stems from differences in company readiness and the quality of halal implementation itself. Without company readiness and a perceived cost-benefit, it is difficult for companies to translate the adoption of halal certification regulations into economic value (Haleem, Khan, & Khan, 2021). Based on this analysis, this study proposes a hypothesis that institutional pressure can influence the implementation of halal certification in logistics companies (H1), and that its implementation can mediate the relationship between institutional pressure and the business performance of logistics companies (H4).

In addition to external pressures, the success of halal certification implementation is also influenced by organizational readiness. Organizational Readiness for Change explains that organizations with adequate managerial support, resource readiness, and operational systems are more able to adopt change effectively (Weiner, 2009). In halal logistics realm, this readiness includes the company's ability to provide halal handling procedures, facility separation, human resource training, and the integration of halal standards into the company's operational systems. Previous research shows that organizations with greater internal readiness are more likely to consistently implement halal standards and reduce operational barriers during the certification process (Ali, Iranmanesh, Tan, Zailani, & Omar, 2022; Masudin, Jie, Djajadikerta, & Widayat, 2021; Rahman, Abd Mubin, Yusof, & Kamarulzaman, 2023). Therefore, this study hypothesizes that organizational readiness positively affects halal certification implementation (H2) and that halal certification implementation mediates the relationship between organizational readiness and business performance (H5).

In addition to internal company readiness factors, company management's perception of cost-benefit can also influence a logistics company's decision to implement halal certification. In general, companies that consider costs and benefits will be more motivated to implement a policy when the economic benefits outweigh the costs. For logistics companies, mandatory halal certification is often associated with increased operational costs, additional facilities, and complex administration. On the other side of the spectrum, several studies have proven that halal

certification also offers benefits, such as opening access to a new demographic, increasing sales, enhancing reputation, strengthening customer loyalty, and minimizing consumer distrust (Fernando, Wahyuni, Zainul Abideen, & Mergeresa, 2023; Utama & Bahtiar, 2025). Therefore, the decision to implement halal certification is influenced not only by regulatory pressures but also by economic considerations (Ngah et al., 2022). Based on these arguments, this study hypothesizes that perceived cost-benefit can significantly influence the implementation of halal certification (H3), and that halal certification implementation can mediate the relationship between perceived cost-benefit and the business performance of logistics companies (H6).

This study considers halal implementation as an organizational mechanism that can influence operational efficiency, corporate reputation, customer loyalty, and market access (Rahman et al., 2023). This relationship can be explained by the Resource-Based View, which views integrated halal certification as a corporate capability that can influence corporate value when properly managed in accordance with regulatory standards (Chahal, Gupta, Bhan, & Cheng, 2020). Regulatory-compliant halal implementation can improve logistics process coordination and security, strengthen user trust, and reduce the risk of mixing halal and non-halal products. Therefore, halal standards in logistics companies are not merely a symbol of compliance but also an operational instrument that can influence the company's business performance. Therefore, this study assumes implementation of halal certification has a significant impact on logistics company performance (H7).

Business performance in this study was measured using a perceptual approach, relying on managerial assessments of operational efficiency, customer satisfaction, corporate reputation, revenue growth, and halal market access. This method was selected due to the limited availability of the object's financial data from logistics companies regarding the impact of halal implementation. Therefore, the study's findings reflect managerial perceptions of halal implementation's impact on business performance, in lieu of objective financial indicators such as profit margin or return on assets. Interpreting these results requires contextual consideration of the unique characteristics of the halal logistics sector in Indonesia.

This study pursues two primary objectives: one is to analyze the influence of institutional pressure, organizational readiness, and cost-benefit perceptions on the implementation of halal certification. Two, to evaluate the mediating role of the implementation of the halal certificate in the relationship between these factors and logistics business performance. The research aims to contribute to the advancement of the literature on halal implementation in the logistics sector and to clarify the reasons for inconsistent findings in previous studies regarding the impact of halal certification on business performance. Moreover, this study offers a practical insight for logistics companies and policymakers by demonstrating that the effectiveness of a halal certificate depends not only on regulatory pressure but also on organizational readiness and on its own perception as an integral component of operational strategy.

2. METHODS

This study aims to analyze the relationships among institutional pressure, organizational readiness, and cost-benefit perceptions regarding the implementation of halal certification, and their links to the business performance of logistics companies in Indonesia. This study employed a quantitative, cross-sectional survey design. Data analysis was performed using Partial Least Squares-based Structural Equation Modeling (SEM-PLS) with SmartPLS 4.0. The SEM-PLS approach was chosen because the research model involves several latent constructs, mediating relationships, and is oriented toward testing the predictive ability of the variables (Hair, Ringle, Hult, & Sarstedt, 2022).

2.1. Conceptual Model Design

The research begins with the development of a conceptual framework that describes the relationship between institutional pressure, organizational readiness, and cost-benefit perception as exogenous variables, halal certification implementation as a mediating variable, and business performance as an endogenous variable. The model is developed

based on Institutional Theory, Organizational Readiness for Change, and Cost–Benefit Theory to explain how external and internal organizational factors relate to the implementation of halal certification in the logistics services sector in Indonesia.

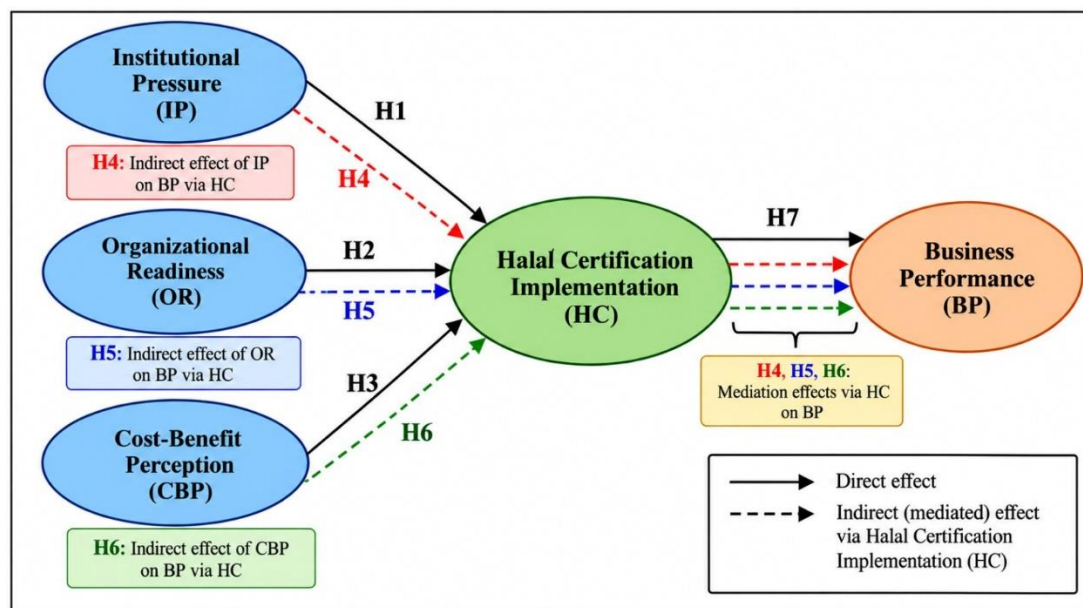


Figure 1. Conceptual framework.

Figure 1 illustrates the proposed conceptual framework of this study, showing the relationships among institutional pressure, organizational readiness, cost–benefit perception, halal certification implementation, and business performance. The framework explains that institutional pressure, organizational readiness, and cost–benefit perception influence halal certification implementation, which subsequently contributes to business performance as the outcome.

2.2. Operationalization of Variables

2.2.1. Independent Variables

Institutional pressures adapted from Martins, Pereira, Scarpin, Queiroz, and Cavalcante (2025) and Struckell, Ojha, Patel, and Dhir (2022) include regulatory, normative, and mimetic pressures, including those from the government, customers, competitors, industry associations, and social reputation. This construct describes the external forces companies need to deal with when adapting to halal standards.

Organizational readiness, adapted from Ali et al. (2022), consists of management commitment, resource readiness, operational support, and clarity of internal procedures. This construct mimics the organization's ability to adapt to a new model of working procedure, effectively and immediately.

Perceived cost-benefit was adapted from Man, Lee, Wong, and Chan (2022) and Wang and Li (2025). It mimics respondents' assessments of the balance between implementation costs, administrative complexity, economic benefits, and reputational benefits of halal certification.

2.2.2. Mediating Variables

The implementation of Halal certification is adapted from Handani and Kim (2023) and Ziegler, Uli, and Tatari (2022). This construct consists of integrating halal standards into company operations, providing internal system support, providing halal training, maintaining ongoing compliance, and demonstrating a long-term implementation commitment. In this study, halal certification implementation is understood as the degree to which halal standards are internalized into a company's logistics practices.

2.2.3. Dependent Variable

Business performance was adapted from Mardlotillah et al. (2022) and Susanty et al. (2022), which includes operational efficiency, halal market access, company reputation, customer satisfaction, and perceived improved business performance. Measurements were based on respondents' managerial perceptions, so the results better represent the organization's evaluation of the impact of halal implementation than objective financial measures. All constructs in this study are treated as reflective constructs because the indicators are assumed to represent the same latent condition and have consistent conceptual relationships (Hair et al., 2022).

2.3. Sampling and Data Collection

The study population included logistics service companies in Indonesia operating in the food distribution, warehousing, logistics transportation, and cold chain sectors related to halal products. The sampling technique used was purposive sampling with two main criteria: (1) the company has logistics activities related to halal products, and (2) the respondents are involved in the operational process, quality control, or implementation of halal certification.

Respondents included operational supervisors, operational managers, quality managers, and staff involved in the certification process, and also served as the company's Halal Supervisor. Questionnaires were distributed via email and through professional networks in the logistics industry. A total of 320 questionnaires were distributed during the study period, of which only 229 were returned. After checking for completeness and data consistency, only 215 questionnaires were deemed suitable for analysis, with a 67.2% response rate.

To prevent potential non-response biases, reminders were sent periodically to potential respondents throughout the data collection period. A simple comparison between early and late respondents did not reveal any significant differences in characteristics, suggesting that non-response bias is not a serious issue in this study.

2.4. Instrument Development and Validity

The research instrument was developed by adapting indicators from previous research within the context of halal logistics in Indonesia. The adjustment process involved translating items into Indonesian and understanding them. Then, align said item with the terminology of the operational practices of logistics companies.

Before we distributed the questionnaires, the instrument was tested in a limited scenario to ensure clarity of language and contextual propriety of the questions in said questionnaires. Content validity was also strengthened through discussions with academics and practitioners experienced in logistics and halal certification.

To minimize common-method bias, the questionnaire was structured with a clear separation of constructs and emphasized that there were no right or wrong answers. All respondents were guaranteed anonymity to reduce social desirability bias. Furthermore, common-method bias was assessed using a full-collinearity test. The results showed that all VIF values were below the threshold of 3.3, indicating no indication of serious common-method bias in the research model.

2.5. Data Analysis

Data analysis was conducted using the SEM-PLS method using SmartPLS version 4.0. Model evaluation was conducted in two stages: testing the measurement model (outer model), and then testing the structural model (inner model). The measurement model was evaluated using convergent validity, discriminant validity, and construct reliability. Concurrently, the structural model was analyzed using path coefficients, R^2 , f^2 , Q^2 , and Variance Inflation Factor (VIF) following the guidance from (Hair & Alamer, 2022).

Testing the significance of relationships between variables and mediation effects was conducted using a bootstrapping procedure with a 5% significance level and a t-value criterion of >1.96 . Additionally, the model's predictive ability was evaluated using the PLS Predict procedure by comparing the PLS-SEM model's performance with a benchmark Linear Regression Model (LM). Because this study used a cross-sectional design and relied on

respondents' perceptions, the results of the relationships between variables are interpreted as associations and predictive relationships, not as absolute causal relationships. Therefore, the research findings are understood as trends in structural relationships between constructs in the context of halal certification implementation in logistics service companies in Indonesia.

3. RESULTS AND DISCUSSION

3.1. Results

3.1.1. Participants and Sampling Method

This study involved 215 respondents. Table 1 presents the demographic characteristics of the respondents, including gender, age, educational level, position, work experience, and type of logistics service. The respondent profile provides empirical context for interpreting the SEM-PLS model results. The distribution of respondents across various demographic categories indicates sufficient diversity among participants, allowing the study to capture different organizational perspectives regarding halal certification implementation in the logistics services sector.

Table 1. Respondents' demographic profile (N = 215).

Variables	Frequency	%
Age		
<35 years	75	35%
36–45 years	68	32%
46–55 years	51	24%
> 55 years	21	9%
Gender		
Male	148	69%
Female	67	31%
Educational Level		
Senior High School	41	19%
Diploma (D1/D2/D3)	36	17%
Bachelor's Degree (S1)	89	41%
Postgraduate (S2/S3)	49	23%
Position		
Operations Manager	72	33%
Quality Manager	69	32%
Marketing Manager	74	34%
Years of Experience		
< 3 years	41	19%
3–5 years	56	26%
6–10 years	67	31%
> 10 years	51	24%
Type of Logistics Service		
Food Logistics	83	39%
Cold Chain	71	33%
Distribution Warehouse	61	28%

3.1.2. Measurement Model Assessment

Measurement model evaluation was conducted to ensure that each latent construct met reliability and validity criteria before testing the structural relationships. This testing included internal reliability, convergent validity, and discriminant validity. Table 2 presents the results of the reliability and convergent validity assessment for each latent construct.

The test results showed that all constructs had outer indicator loadings above the recommended threshold, and Composite Reliability and Cronbach's Alpha values indicated good internal consistency. The Average Variance Extracted (AVE) value for each construct was also above 0.50, confirming the fulfillment of convergent validity. Overall, these results indicate that the indicators used adequately represent the latent constructs.

Discriminant validity was evaluated using the Fornell-Larcker and Heterotrait-Monotrait Ratio (HTMT) criteria. Based on the Fornell-Larcker criteria, the square root of the AVE of each construct was greater than its correlation with other constructs. Furthermore, all HTMT values were below the threshold of 0.85, indicating no discriminant validity issues. Thus, the measurement model is considered suitable for use at the structural model evaluation stage.

Table 2. Reliability and convergent validity.

Construct / Indicator	Item Reliability	Convergent Validity		
	Outer Loading	CR	AVE	Alpha
Institutional Pressure		0.894	0.629	0.853
Competitor pressure	0.760			
Customer pressure	0.790			
Government pressure	0.838			
Industry association pressure	0.795			
Social reputation pressure	0.779			
Organizational Readiness		0.877	0.588	0.826
Perceived cost	0.780			
Perceived complexity	0.695			
Reputational benefits	0.736			
Market opportunity benefits	0.830			
Cost-benefit ratio	0.786			
Cost-Benefit Perception		0.894	0.628	0.852
Perceived cost	0.783			
Perceived complexity	0.790			
Reputational benefits	0.797			
Market opportunity benefits	0.793			
Cost-benefit ratio	0.800			
Halal Certification Implementation		0.894	0.629	0.852
Short-term action intention	0.828			
Long-term commitment	0.760			
Integration into strategy	0.813			
Support system preparation	0.746			
Ongoing compliance	0.815			
Business Performance		0.864	0.559	0.803
Operational efficiency	0.714			
Customer satisfaction	0.731			
Company reputation	0.748			
Revenue increase	0.762			
Halal market access	0.782			

Source: Data processed using Ringle, Wende, and Becker (2024).

The results of the outer model testing indicate that all constructs in this study met the criteria for reliability and convergent validity. Each construct was tested using outer loading indicators, Composite Reliability (CR), Average Variance Extracted (AVE), and Cronbach's Alpha. Overall, the results indicate that all values met the minimum thresholds (CR and Alpha > 0.70; AVE > 0.50), thus indicating that the measurement model is reliable and valid for use in the next stage of analysis.

After ensuring that all constructs met the criteria for internal reliability and convergent validity, the next step was to test whether each construct was truly empirically distinct from the others. Therefore, discriminant validity was evaluated to ensure that the constructs in the research model did not exhibit conceptual overlap. Table 3 presents the results of discriminant validity assessment using the Fornell-Larcker criterion and the Heterotrait-Monotrait Ratio (HTMT).

Table 3. Discriminant validity.

Method: Fornell and Larcker					
Construct	Institutional Pressure	Organizational Readiness	Cost-Benefit Perception	Halal Certification Implementation	Business Performance
Institutional Pressure	$\sqrt{\text{AVE}}$ (0.793)				
Organizational Readiness	0.521	$\sqrt{\text{AVE}}$ (0.767)			
Cost-Benefit Perception	0.556	0.601	$\sqrt{\text{AVE}}$ (0.792)		
Halal Certification Implementation	0.575	0.640	0.681	$\sqrt{\text{AVE}}$ (0.793)	
Business Performance	0.499	0.613	0.659	0.688	$\sqrt{\text{AVE}}$ (0.748)
Method: HTMT					
Construct	Institutional Pressure	Organizational Readiness	Cost-Benefit Perception	Halal Certification Implementation	Business Performance
Institutional Pressure					
Organizational Readiness	0.613				
Cost-Benefit Perception	0.648	0.701			
Halal Certification Implementation	0.672	0.733	0.751		
Business Performance	0.586	0.695	0.719	0.762	

Source: Data processed using Ringle et al. (2024).

3.1.3. Structural Model Evaluation

A structural model was evaluated to test the relationships among the latent variables specified in the research hypothesis. Testing was conducted using a bootstrapping approach with a 95% confidence level. Before path testing, multicollinearity between constructs was evaluated using the Variance Inflation Factor (VIF) values. All VIF values were below the recommended threshold, indicating no multicollinearity issues in the model.

The path estimation results indicate that Institutional Pressure, Organizational Readiness, and Perceived Cost-Benefits have a positive and significant effect on Halal Certification Implementation. Then, Halal Certification Implementation also has a positive and significant effect on Business Performance. These findings indicate that both external factors and internal organizational readiness play significant roles in driving halal certification implementation, which, in turn, impacts business performance. Table 4 presents the results of hypothesis testing and structural model evaluation, including path coefficients, t-statistics, p-values, confidence intervals, effect sizes, and explanatory power of the model.

Table 4. Hypothesis testing and structural model evaluation.

Hypothesis	Path Coefficient	T-Statistics	P-Values	95% Confidence Interval		Test Result (Sig)	VIF	f ²	R ²	Q ²
				Lower Bound	Upper Bound					
H1. Institutional Pressure → Halal Certification Implementation	0.284	4.912	0.000	0.173	0.382	Significant	1.501	2.134	0.608	0.271
H2. Organizational Readiness → Halal Certification Implementation	0.356	6.247	0.000	0.261	0.452	Significant	1.301	2.021	0.167	
H3. Cost–Benefit Perception → Halal Certification Implementation	0.291	5.104	0.000	0.187	0.384	Significant	1.206	1.987	0.123	
H7. Halal Certification Implementation → Business Performance	0.547	9.382	0.000	0.453	0.639	Significant	1.571	2.245	0.432	0.465
H4. Institutional Pressure → Business Performance (via Halal Certification Implementation)	0.156	3.574	0.000	0.072	0.245	Significant (Partial Mediation)	1.216	—	—	
H5. Organizational Readiness → Business Performance (via Halal Certification Implementation)	0.194	4.125	0.000	0.096	0.285	Significant (Partial Mediation)	1.150	—	—	
H6. Cost–Benefit Perception → Business Performance (via Halal Certification Implementation)	0.139	2.847	0.005	0.041	0.228	Significant (Partial Mediation)	1.177	—	—	

Source: Data processed using Ringle, Wende, and Becker (2024).

The R^2 value for the Halal Certification Implementation construct indicates that the antecedent variables in this study can explain some of the variation in halal certification implementation in logistics companies. However, the model's explanatory power for this construct is not yet fully robust. This points out to us that there are factors outside our research model, such as technological support, organizational culture, company financial readiness, and the dynamics of industry regulations, that could influence the implementation of halal certification.

On the other hand, the R^2 value for Business Performance is higher. This indicates that the implementation of halal certification is substantially associated with variations in business performance among logistics service companies. In other words, halal implementation is not only about administrative compliance but also about operational efficiency, company reputation, and access to the halal market.

1) Effect Size Analysis (f^2)

In addition to relying on statistical significance, this study also evaluated the magnitude of each relationship pathway's influence using the f^2 effect size to assess the substantive contribution of each predictor to the endogenous variable. Referring to the criteria proposed by Cohen (1988) and adopted in the SEM-PLS literature (Hair & Alamer, 2022), an f^2 value of 0.02 indicates a small effect, 0.15 a medium effect, and 0.35 a large effect.

The analysis results indicate that the influence of Institutional Pressure on Halal Certification Implementation is small to medium, while Organizational Readiness and Perceived Cost-Benefits show medium effect sizes. Conversely, the influence of Halal Certification Implementation on Business Performance shows a relatively large effect size, indicating that Halal Certification Implementation is the primary mechanism linking institutional and organizational factors to business performance.

This interpretation of effect sizes confirms that, in spite of all pathways being statistically significant, their influence is not uniform, and the role of halal certification implementation is substantive and dominant in the overall research model.

2) Mediation Analysis

A mediation analysis was conducted to examine the role of Halal Certification Implementation as an intervening variable in the relationships among Institutional Pressure, Organizational Readiness, and Perceived Cost-Benefits and Business Performance. Indirect effects were tested using a bootstrapping procedure that accounted for path coefficients and confidence intervals.

The analysis results showed that all indirect effects were significant, indicating that Halal Certification Implementation mediates the relationship between the antecedent variables and Business Performance. Alongside it, the direct effect of the antecedent variables on Business Performance remained significant when the mediating variables were included in the model, indicating partial mediation.

These findings suggest that institutional pressures, organizational readiness, and cost-benefit perceptions not only directly influence business performance but also do so through the implementation of halal certification as a strategic mechanism for a performance boost.

3) Predictive Power of the Model

The model's explanatory power is evaluated using the coefficient of determination (R^2) and predictive relevance (Q^2). The R^2 value indicates that antecedent variables explain a substantial proportion of the variation in Halal Certification Implementation and Business Performance. A positive Q^2 value indicates that the model has good predictive ability. In general, the results of the structural model evaluation dictate that this research model is not only statistically significant but also substantively relevant and adequately predictive, making it suitable for explaining the mechanisms of halal certification implementation and its implications for business performance.

3.2. Discussion

The results of the structural model evaluation point out that the relationships among the variables in this study are consistent and significant, both directly and through the mediation of halal certification implementation. These

findings confirm that adopting a halal certificate in the context of logistics is not influenced by a single dominant factor, but rather by multiple interactions between external pressures, internal organizational readiness, and rational considerations between costs and benefits. Hence, the results of this study provide empirical support for integrating Institutional Theory, Organizational Readiness for Change, and the Cost–Benefit Perspective into a coherent conceptual framework.

3.2.1. Institutional Pressure, Halal Certification Implementation, and Business Performance

The test results indicate that institutional pressure has a positive and significant effect on the implementation of halal certification. This result confirms hypothesis (H1), which posits that institutional pressure positively affects the implementation of halal certification. This finding reinforces the main argument of Institutional Theory: that organizations tend to adjust their operational practices to gain social and regulatory legitimacy, especially when certain standards are perceived as industry norms. In the context of halal logistics, pressure from regulators, customer demographics, industry associations, and market competition has turned the halal certificate or halal compliance from something niche and just an add-on to an expectation. Not to mention, the results of the mediation test (H4) indicate that halal certification implementation partially mediates the relationship between institutional pressure and logistics business performance. The partial mediation role of halal certification implementation indicates that institutional pressure does not automatically improve business performance. A positive impact only emerges when this pressure is translated into structured and credible halal certification practices. These findings continue the previous literature (Abdallah, Rahem, & Pasqualone, 2021; Al-Mahmood & Fraser, 2023) by showing that in the service sector, particularly logistics, institutional legitimacy must be accompanied by implementation capacity to generate economic and reputational value (Haleem et al., 2021; Jaswir, Sari, Haji Che Daud, & Sukmana, 2023).

3.2.2. Organizational Readiness, Halal Certification Implementation, and Business Performance

The results of the hypothesis test (H2), which stated that organizational readiness significantly influences the implementation of halal certification, proved significant. Organizational readiness emerged as the factor with the strongest influence. This finding confirmed that a halal certificate milestone in logistics services is not just a matter of compliance but an organizational overhaul from the inside that requires commitment from management and the resources department, alongside adjustments to already established operational systems. From an Organizational Readiness for Change perspective, this readiness reflects the organization's collective ability to accept, manage, and internalize new standards. These results align with the findings by Susanty et al. (2022) and Wahyuni, Masudin, Wulandri, and Voak (2024) that emphasize internal readiness, in terms of human resources, operational procedures, and managerial support, has a salient role in the success of halal integration in the logistics sector. Concluding that effective integration is dependent on how the organization prepares its structures, resources, and collective commitment to meet established standards. Furthermore, the results of the mediation test (H5) show that halal certification implementation partially mediates the relationship between organizational readiness and business performance. The partial mediating role of halal certification implementation indicates that internal readiness contributes to improved business performance only when realized through effective certification practices. This finding reinforces the view that organizational readiness serves as a condition that enables rather than an end in itself. According to Rahman et al. (2023), organizational readiness creates a positive bubble of change that facilitates the adoption of values-based innovations, like halal certification. Thus, organizational readiness is not just an administrative factor but also a strategic foundation for increasing competitiveness.

3.2.3. Cost-Benefit Perception, Halal Certification Implementation, and Business Performance

The results of the hypothesis test (H3) indicate that Cost-Benefit perceptions, the balance of costs and benefits, significantly influence the decision to implement halal certification. In the context of logistics, halal certification is

seen as a strategic investment if the reputational benefits, market access, and increased customer trust outweigh the associated financial costs of getting a halal certificate and the operational complexities of upholding halal compliance. This perspective aligns with Cost-Benefit Theory, which emphasizes economic rationality in organizational decision-making. Furthermore, assessing the benefit-cost ratio is also crucial, as companies consider whether the investment of time, effort, and funds will yield commensurate returns for operational sustainability.

A more positive understanding of these aspects encourages management to view halal certification not as an administrative obligation, but as a strategic decision that can expand market access, increase customer trust, and strengthen the company's position in the logistics services industry. This finding is consistent with research by Kurniawati and Cakravastia (2023) and Primadasa, Kusri, Mansur, and Masudin (2025), which shows that positive perceptions of economic and reputational benefits encourage companies to integrate halal certification into their business strategies more seriously. At the same time (H6), halal certification implementation mediates the relationship between cost-benefit perceptions. The mediating role of halal certification implementation indicates that positive cost-benefit perceptions will contribute to improved performance only if the company manages the certification process efficiently. This finding extends the research of Ellahi, Wood, Khan, and Bekhit (2025) and Mabkhot (2023), which found that halal certification can increase revenue and customer loyalty and expand the market when a company reduces administrative costs and ensures process efficiency.

3.2.4. Halal Certification and Logistics Service Business Performance

From the results of the seventh hypothesis test (H7), we find that cost-benefit perception has a significant impact on business performance, with halal certification mediating this effect ($\beta = 0.139$; $p = 0.005$). Given that the test results show partial mediation, this indicates that, in addition to its direct impact, companies' rational calculations of costs and benefits also encourage more serious implementation of halal certification, ultimately boosting business performance. Furthermore, the R^2 value of 0.432 indicates that the variables in this model can explain 43.2% of the variation in business performance. Practically, this finding confirms that halal certification is not simply a matter of complying with regulations or a mere formality. This step can actually be a source of competitive advantage that benefits companies. This thinking aligns closely with the Resource-Based View concept (Ziegler et al., 2022), which emphasizes the importance of unique resources, such as a commitment to halal integrity, that are difficult for competitors to imitate. Previous studies by Fernando, Mergeresa, Wahyuni, and Hazarasim (2024) and Jaiyeoba, Abdullah, and Khalid (2025) also support this conclusion, finding that comprehensive implementation of halal standards boosts a company's reputation, improves operational processes, and increases customer satisfaction.

Table 5. PLS predict.

Indicator	Model PLS-SEM		Model LEM	
	RMSE	MAE	RMSE	MAE
BP5	0.611	0.488	0.643	0.511
BP2	0.613	0.500	0.634	0.517
BP4	0.627	0.523	0.647	0.532
BP3	0.591	0.484	0.609	0.490
BP1	0.603	0.490	0.618	0.493
HC4	0.636	0.521	0.657	0.543
HC1	0.574	0.470	0.593	0.486
HC2	0.608	0.487	0.623	0.495
HC3	0.657	0.519	0.685	0.540
HC5	0.598	0.473	0.632	0.501

Beyond evaluating the significance of the structural relationships, this study further assesses the predictive capability of the proposed model using the PLS Predict procedure. This analysis is conducted to determine whether the PLS-SEM model provides adequate predictive accuracy for new observations beyond the explained variance

obtained from the structural model assessment. Table 5 presents the results of the PLS Predict analysis by comparing the prediction performance of the PLS-SEM model and the linear regression model (LM) based on RMSE and MAE values for the indicators of halal certification implementation and business performance.

The PLS Predict results show that all indicators in the halal certification implementation (HC) and business performance (BP) variables have lower RMSE and MAE values in the PLS-SEM model than in the linear regression model (LEM). This difference in RMSE and MAE values indicates that the PLS-SEM model provides more accurate predictions for out-of-sample data. For example, the BP5 indicator has an RMSE of 0.611 in the PLS model, lower than 0.643 in the regression model. A similar pattern is seen across all indicators for both the BP and HC variables, demonstrating the consistency of the model's predictive performance.

These findings indicate that the developed model not only has theoretical relevance for explaining the relationships among variables but also has strong predictive power in practice. This reinforces the previous Q^2 results, which demonstrated predictive relevance, and confirms that the PLS-SEM model is superior to the linear model in predicting halal certification implementation behavior and its impact on business performance. Thus, this research model is suitable for use as a basis for strategic decision-making for logistics companies in the context of implementing halal certification (Becker, Cheah, Gholamzade, Ringle, & Sarstedt, 2023; Hair & Alamer, 2022).

4. CONCLUSION

This study shows that halal certification is strongly associated with improved business performance among logistics service companies in Indonesia. Institutional pressure, organizational readiness, and perceived cost-benefit were significantly associated with the implementation of halal certification. Among these three factors, organizational readiness emerged as the most dominant. This finding indicates that the success of halal implementation is not solely influenced by regulatory pressure or market demand, but also depends heavily on the company's internal readiness, including managerial support, human resource competence, clear operational procedures, and the readiness of supporting infrastructure.

The results also indicate that halal certification implementation acts as a mediating variable in the relationship between organizational factors and business performance. In other words, institutional pressure, organizational readiness, and perceived costs and benefits are not directly related to improved performance but operate through the consistent implementation of halal certification within the company's logistics system. This finding extends the literature on halal logistics by demonstrating that halal certification implementation serves as an organizational mechanism that bridges external and internal factors with the company's perceived business outcomes.

Theoretically, this study strengthens the integration of Institutional Theory, Organizational Readiness for Change, Cost-Benefit Theory, and Resource-Based View in the context of halal logistics. This study shows that external pressure alone is insufficient to produce effective implementation without the support of internal organizational readiness and an adequate perception of benefits. In this context, halal certification is understood not only as a regulatory compliance instrument but also as part of organizational capability development that can support operational efficiency, corporate reputation, and access to the halal market.

However, interpreting business performance in this study requires caution, as the indicators used are still based on managerial perceptions rather than objective financial data. Therefore, the findings are more accurately understood as perceived performance improvements experienced by organizations after implementing halal certification, rather than as direct evidence of increased profitability or long-term competitive advantage.

Practically, the results of this study provide several policy and managerial implications. For logistics companies, these findings underscore the importance of strengthening internal readiness before adopting halal certification, particularly in human resource training, operational systems, and management support. For regulators, these results indicate the need for broader technical and administrative support to prevent halal implementation from being perceived as a mere cost burden, particularly for medium-sized logistics companies. Furthermore, simplifying

procedures and improving mentoring can help companies integrate halal standards more effectively into their daily logistics activities.

This study has several limitations. First, the study used a cross-sectional design, so the relationships between variables cannot be fully interpreted as causal. Second, all data were obtained through a perceptual survey, which still poses the potential for subjectivity and common methodological issues. Third, this research focused on the context of halal regulations in Indonesia, so generalizing the results to other countries or sectors requires caution. Fourth, the coefficient of determination for halal certification implementation indicates that factors beyond the model may play a significant role, including digital readiness, organizational culture, supply chain integration, and technological support.

Future research could expand the model by using longitudinal data and objective financial indicators, such as profit margin, logistics cost efficiency, revenue growth, or firm value. Furthermore, future research could develop a cost-benefit analysis based on actual financial data to more thoroughly evaluate the economic impact of implementing halal certification. Studying the relationship between halal certification, business risk, access to financing, and firm value is also an important agenda for expanding the contribution of halal logistics research to economics and finance.

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Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

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