Journal of Industrial Engineering and Halal Industries (JIEHIS)
P-ISSN 2722-8150, E-ISSN 2722-8142
Vol. 6 No. 2 December 2025, Pp 130-142
https://doi.org/10.14421/jiehis.5413

Submitted: 2025-12-30
Revised: 2026-01-28
Accepted: 2026-02-04
Online: 2026-02-10

Analysis of the Effect of Halal Logistics Attributes and Service Quality on Halal Logistics Adoption Intention Through Emotional and Functional Values

Syaeful Arief [1*], Taufik Aji[1], Dwi Kristanto[1], Khusna Dwijayanti[1], Eko Heru Prasetyo[2]
[1] Department of Industrial Engineering, Science and Technology, Universitas Islam Negeri Sunan Kalijaga
[2] Department of Industrial Engineering and Economics, Institute of Science Tokyo
*Corresponding author: syaeful.arief@uin-suka.ac.id

Abstract

This study examines the influence of halal logistics attributes and service quality on consumers' intention to adopt halal logistics services, considering the mediating roles of emotional and functional values. Although previous studies have discussed halal logistics adoption from operational or religious perspectives, limited research integrates both emotional and functional value mechanisms within a single structural model, particularly in the Indonesian context. This study employs an explanatory quantitative approach using Structural Equation Modelling-Partial Least Squares (SEM-PLS) with data collected from 200 consumers who had used halal logistics services in the last six months. The results indicate that service quality significantly influences both emotional and functional values, while halal logistics attributes mainly affect emotional value. Furthermore, both emotional and functional values play important mediating roles in shaping adoption intention. These findings emphasize that halal compliance must be accompanied by high service performance to strengthen consumers' value perceptions and encourage wider adoption. This study contributes to halal logistics literature by highlighting value-based pathways in consumers' decision-making and offers practical implications for logistics providers and policymakers in developing a sustainable halal logistics ecosystem. Specifically, this study extends customer perceived value theory by empirically demonstrating the simultaneous mediating roles of emotional and functional values in the context of halal logistics adoption.

Keywords: halal logistics, service quality, emotional value, functional value, adoption intention, SEM-PLS

INTRODUCTION

Indonesia as a country with the largest Muslim population in the world and the largest economy in Southeast Asia, faces major challenges in the logistics sector. One of the main challenges is the high national logistics cost, which has consistently recorded above 14% of Gross Domestic Product (GDP) in the last five years (Amin et al., 2024). In comparison, average logistics costs in ASEAN countries such as Thailand and Malaysia range from 11-12%, and only 8% in Singapore (Santoso et al., 2021). This disparity indicates the urgency to improve the efficiency of the national logistics system as a whole.

Furthermore, in the 2023 Logistics Performance Index (LPI) released by the World Bank, Indonesia ranks 60th out of 139 countries. This low ranking is largely due to structural issues such as limited port to hinterland connectivity, high dependence on land transportation (87%), and low quality of delivery services in areas outside Java, especially Eastern Indonesia (Santoso et al., 2025). A study by Budiman & William (2025) shows that the logistics cost of shipping goods to Papua can be twice that of intercity shipments in Java, due to limited multimodal routes and the lack of integration of distribution systems. In the context of digital transformation and the growth of e-commerce, this challenge becomes even more pressing. Indonesia is currently among the top 10 e-commerce markets in the world, with the dominance of MSME players as the main sellers (Sutrisno & Nainggolan, 2025). Unfortunately, this growth has not been fully supported by reliable and trustworthy logistics infrastructure. Notes that around 60% of e-commerce consumers' complaints in Indonesia stem from late deliveries and damaged goods, signalling the low quality of logistics services underlying the national e-commerce system (Bening et al., 2023).

One strategic approach that is starting to be looked at is the development of halal logistics, which not only guarantees the "halalness" of products in sharia, but also answers consumers' needs for a clean, transparent, and

reliable logistics system (Aslan, 2023; Adhiwibowo et al., 2025). The study by Tumiwa et al. (2023) underlines that the implementation of halal logistics can be a driver of efficiency because it demands traceability, strict segregation, and the adoption of technologies such as the Internet of Things (IoT) and blockchain to ensure the integrity of information throughout the supply chain (Vanany et al., 2024). Unfortunately, the adoption of halal logistics in Indonesia is still relatively low, either due to infrastructure limitations, low awareness, or consumer doubts about the validity of halal claims from logistics service providers (Saribanon & Setiawan, 2023).

Previous research has identified various determinants in the adoption of halal logistics. Muslih et al. (2025) emphasized the importance of halal logistics attributes such as clarity of certification and separation of facilities in shaping consumers' emotional perceptions. On the other hand, Kurniawan et al. (2023) highlighted that logistics service quality, including speed and accuracy of delivery, shapes the perception of functional value that is crucial in adoption decisions. However, there are still a few studies that combine aspects of emotional value and functional value simultaneously in shaping the adoption intention of halal logistics, especially in Indonesia (Noor, 2025; Pratiwi et al., 2024). This gap indicates the need to develop a conceptual model that integrates these two value pathways as key mediators in consumer decision-making towards halal logistics services.

In addition, not many studies have linked the halal logistics discourse to the context of government policy initiatives, such as Government Regulation No. 39 of 2021 concerning the Implementation of the Halal Product Guarantee Sector and the National Halal Industry Master Plan (Prakoso et al., 2023). In fact, this regulation is an important catalyst in building a halal logistics ecosystem based on infrastructure, technology, and adaptive governance. Based on these conditions, this study is designed to fill the existing scientific gap by empirically examining the effect of halal logistics attributes and logistics service quality on halal logistics adoption intentions, through the mediating role of emotional value and functional value, using the SEM-PLS approach.

Based on these conditions, this study formulates several research questions to close the existing knowledge gap. The first question examines how halal logistics attributes influence consumers' emotional value. The second question explores how service quality shapes both emotional and functional value. The third question investigates whether emotional and functional value mediate the relationship between these factors and adoption intention. Together, these questions aim to provide a comprehensive explanation of the value-based pathways affecting halal logistics adoption.

Accordingly, the purpose of this study is to analyze the effects of halal logistics attributes and service quality on consumers' intention to adopt halal logistics services. The study also aims to examine the mediating roles of emotional and functional value within these relationships. By addressing these objectives, the study seeks to clarify the dominant value perceptions that influence consumer decisions. This understanding is expected to contribute to the development of more effective halal logistics strategies. Ultimately, the study aims to support the growth of a reliable, efficient, and consumer-centered halal logistics ecosystem in Indonesia.

LITERATURE REVIEW

Understanding how halal logistics service quality, attributes, and perceived value influence consumer adoption requires the support of relevant theories. These theories provide a conceptual basis for explaining the relationships among the studied variables. Customer Perceived Value (CPV) Theory states that customers assess a service by comparing the benefits received with the sacrifices made, forming value perceptions that are subjective and multidimensional (Hashim et al., 2025). The Theory of Planned Behaviour explains that intention is shaped by attitudes, subjective norms, and perceived behavioural control, making it a key predictor of adoption behaviour (Wei et al., 2025). Halal Logistics Theory highlights that logistics activities must ensure segregation, prevent contamination, and comply with Shariah principles to maintain product integrity and consumer trust (Syakirunn'iam et al., 2025).

Research on the adoption of halal logistics has grown along with the increasing attention to the needs of the Muslim market and the importance of halal supply chain integrity (Pratiwi et al., 2024; Noman et al., 2025). However, most previous studies are still partial and have not fully integrated aspects of consumer value as a foundation in shaping halal logistics adoption intentions. The study by Putri et al. (2024) highlights the importance of halal logistics attributes such as the separation of halal-non-halal facilities and the transparency of the distribution process in increasing consumers' emotional trust. Meanwhile, Saidah & Lestari (2021) emphasized the role of logistics service quality. This study shows that perceptions of service efficiency and practicality strongly influence user experience, but has not linked these aspects to the context of halal logistics. Alimusa et al. (2025) in their international study emphasized that emotional value and functional value are the two main pathways that influence loyalty and adoption intentions in the context of trust-based services. Research by Saribanon & Setiawan (2023) revealed consumer doubts about the legitimacy of halal logistics practices in Indonesia due to inconsistencies in certification and low literacy of service providers. This indicates the importance of building stronger value perceptions to drive adoption.

In general, these studies convey that the successful adoption of halal logistics is not enough with the provision of sharia-compliant facilities, but depends heavily on how consumers interpret these services emotionally and functionally. Although there have been studies that address each variable separately, there is no research that examines in an integrated manner the effect of halal logistics attributes and service quality on adoption intention through the

mediation of emotional value and functional value in one structural model. Therefore, this study aims to fill this gap by building and testing a conceptual model that integrates two sources of value (emotional and functional) as the main mechanism in the formation of halal logistics adoption intention in Indonesia, through the SEM-PLS approach.

Conceptual Background and Hypotheses Development

Halal Logistics Attributes and Emotional Value

Halal logistics attributes such as segregation of halal and non-halal products, certification transparency, hygiene assurance, and traceability are essential components in maintaining halal integrity throughout the supply chain. According to halal logistics theory, strict compliance with Shariah principles enhances consumer trust and psychological comfort, which are core elements of emotional value. Previous studies have shown that visible halal assurance mechanisms strengthen consumers' emotional attachment and trust toward logistics providers (Putri et al., 2024; Saribanon & Setiawan, 2023; Muslih et al., 2025). Therefore, halal logistics attributes are expected to influence consumers' emotional value positively.

H1: Halal logistics attributes positively influence emotional value.

Service Quality and Emotional Value

Service quality reflects consumers' perceptions of the reliability, responsiveness, and professionalism of logistics providers. Based on service marketing theory, positive service encounters generate affective responses such as satisfaction, comfort, and emotional attachment. High-quality services reduce anxiety related to product safety and delivery uncertainty, particularly in halal-sensitive contexts. Empirical studies confirm that service efficiency and responsiveness significantly enhance emotional satisfaction and trust in logistics services (Saidah & Lestari, 2021; Kurniawan et al., 2023; Alimusa et al., 2025). Hence, service quality is expected to positively influence emotional value.

H2: Logistics service quality positively influences emotional value.

Service Quality and Functional Value

Functional value represents consumers' perceptions of practical benefits such as efficiency, convenience, and cost-effectiveness. According to customer perceived value theory, functional value is directly shaped by the performance outcomes of services. Logistics service quality, including timely delivery, accurate handling, and ease of transaction, enhances perceived usefulness and operational effectiveness. Prior research indicates that high logistics performance significantly improves perceived functional benefits and service utility (Kurniawan et al., 2023; Vanany et al., 2024; Noor, 2025). Therefore, service quality is expected to positively influence functional value.

H3: Logistics service quality positively influences functional value.

Mediation of Emotional Value between Attributes and Adoption Intention

While halal logistics attributes ensure technical compliance, consumers' adoption decisions are influenced by how these attributes are emotionally interpreted. Emotional responses such as trust, peace of mind, and moral satisfaction can transform technical attributes into meaningful consumer experiences. Studies in halal marketing emphasize that emotional attachment plays a critical role in shaping behavioural intention toward halal-certified services (Aslan, 2023; Pratiwi et al., 2024). Therefore, emotional value is expected to mediate the relationship between halal logistics attributes and adoption intention.

H4: Emotional value mediates the relationship between halal logistics attributes and adoption intention.

Mediation of Emotional Value between Service Quality and Adoption Intention

Service quality affects adoption intention not only through functional outcomes but also through emotional satisfaction. Positive service interactions foster feelings of trust and psychological comfort, which are crucial in trust-based services such as halal logistics. Previous studies demonstrate that emotional satisfaction mediates the effect of service performance on loyalty and intention (Alimusa et al., 2025; Wei et al., 2025). Thus, emotional value is expected to mediate the effect of service quality on adoption intention.

H5: Emotional value mediates the relationship between logistics service quality and adoption intention.

Mediation of Functional Value between Service Quality and Adoption Intention

Functional value is a key determinant in rational decision-making processes, especially for services requiring reliability and efficiency. According to customer value theory, consumers evaluate services based on cost-benefit trade-offs, where performance outcomes strongly influence adoption behaviour. Empirical findings suggest that perceived usefulness and operational efficiency significantly mediate service quality effects on usage intention (Noor, 2025; Vanany et al., 2024). Therefore, functional value is expected to mediate the relationship between service quality and adoption intention.

H6: Functional value mediates the relationship between logistics service quality and adoption intention.

Emotional Value and Adoption Intention

Emotional value represents consumers' affective responses toward services, including feelings of trust, comfort, and moral satisfaction. According to the Theory of Planned Behaviour, positive attitudes and emotional evaluations contribute to stronger behavioural intentions. Studies in halal and service marketing show that emotional satisfaction significantly predicts adoption and loyalty intentions (Aslan, 2023; Alimusa et al., 2025). Thus, emotional value is expected to positively influence adoption intention.

H7: Emotional value positively influences adoption intention.

Functional Value and Adoption Intention

Functional value reflects consumers' rational evaluation of service performance, efficiency, and practicality. From a utilitarian perspective, consumers adopt services that maximize performance benefits and reduce operational risks. Prior studies indicate that perceived functional benefits strongly drive service adoption and continuance intention (Noor, 2025; Vanany et al., 2024). Therefore, functional value is expected to positively influence adoption intention.

H8: Functional value positively influences adoption intention.

Based on the development of hypotheses H1-H8, this study constructs a conceptual framework that integrates the roles of halal logistics attributes and logistics service quality in shaping consumers' intention to adopt halal logistics services. This framework positions emotional value and functional value as key psychological mechanisms that bridge the influence of technical and operational factors on adoption behaviour. Thus, the proposed model not only explains the direct effects of attributes and service quality but also emphasizes how consumers' affective and utilitarian perceptions transform service experiences into adoption intention. The research framework is presented in Figure 1.

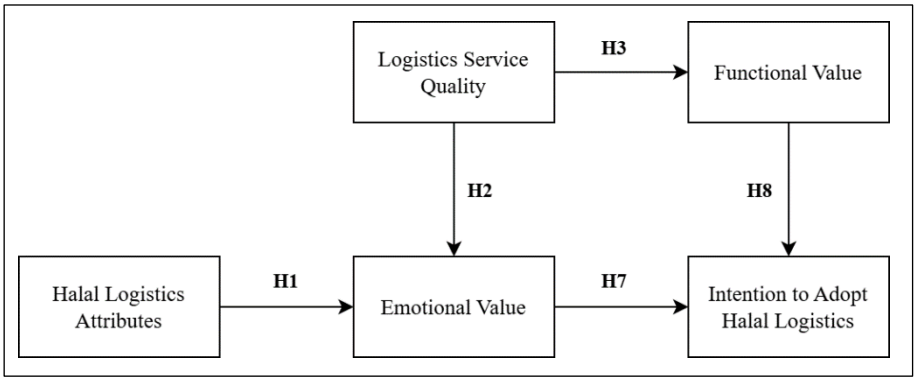

Figure 1. Research framework

Figure 1 illustrates the hypothesized relationships among the study variables (H1–H8). Halal logistics attributes are predicted to influence consumers' emotional value (H1), which subsequently affects the intention to adopt halal logistics services (H7), forming an indirect effect (H4). Logistics service quality is predicted to influence both emotional value (H2) and functional value (H3). Emotional value and functional value then serve as mediating variables linking service quality to adoption intention through indirect effects (H5 and H6), while also exerting direct effects on adoption intention (H7 and H8). Overall, this framework reflects a holistic customer value perspective by integrating affective and utilitarian mechanisms in explaining halal logistics adoption behaviour.

METHODS

This study uses an explanatory quantitative approach to test the causal relationship between latent variables with SEM-PLS analysis, through SmartPLS 4.0 software. This method was chosen for its ability to handle complex models, non-normal data, and small samples. The study population includes individual consumers in Indonesia who in the last six months have used halal logistics services, either directly or through e-commerce platforms. The sampling technique combines purposive and stratified sampling by region with the inclusion criteria of age ≥18 years, having used halal logistics services, and understanding the concept of halal. Based on the formula of Hair et al. (2019), a minimum of 150 respondents is required, with a target of 200 to anticipate dropouts. Data collection was carried out through online and offline questionnaires, using a 5-point Likert scale. Data analysis consists of testing the measurement model (convergent validity, reliability, discriminant) and structural model (path significance test, R^2, Q^2, f^2, mediation effect, and multicollinearity through VIF). Demographic variables such as age, gender, and region were analysed as control variables using multigroup analysis (MGA). This study followed ethical research principles

with informed consent, assurance of data confidentiality, and handling of missing data using listwise deletion and mean imputation. To ensure that each latent construct was accurately represented, this study employed multiple reflective indicators adapted from prior validated studies. The operational definitions and measurement items for each construct are presented in the following subsection on measurement indicators

Table 1 Measurement Indicators

Variable	Code	Indicator Statement
Halal Logistics Attributes	X1.1	Separation of halal and non-halal products
	X1.2	Availability of halal certification
	X1.3	Cleanliness of logistics facilities
	X1.4	Traceability of halal status
	X1.5	Compliance with halal handling procedures
Logistics Service Quality	X2.1	Timeliness of delivery
	X2.2	Accuracy of shipment
	X2.3	Responsiveness to complaints
	X2.4	Professionalism of staff
	X2.5	Ease of service access
Emotional Value	X3.1	Feeling of safety
	X3.2	Trust in provider
	X3.3	Peace of mind
	X3.4	Moral satisfaction
	X3.5	Emotional comfort
Functional Value	X4.1	Service efficiency
	X4.2	Cost-effectiveness
	X4.3	Practical usefulness
	X4.4	Time saving
	X4.5	Service reliability
Adoption Intention	X5.1	Willingness to use
	X5.2	Likelihood of future use
	X5.3	Recommendation intention
	X5.4	Preference over others
	X5.5	Commitment to use

RESULT AND DISCUSSION

4.1. Analysis

Respondent Demographic

This section presents the empirical results of the study, beginning with a description of the respondents' demographic characteristics. Understanding the demographic profile is important to ensure that the sample represents actual users of halal logistics services and to provide context for interpreting subsequent statistical analyses. The demographic distribution of respondents is presented in Table 2.

Table 2 Respondent Demographic Profile (n = 200)

Category	Frequency	Percentage (%)
Gender		
Male	120	60
Female	80	40

Category	Frequency	Percentage (%)
Age Group		
18–25 years	60	30
26–35 years	84	42
36–45 years	40	20
>45 years	16	8
Experience Using Halal Logistics Services		
< 1 year	50	25
1–3 years	100	50
> 3 years	50	25

The demographic characteristics of respondents are presented in Table 2. Male respondents dominate the sample, accounting for 60% of the total respondents, while female respondents represent 40%. This composition reflects the higher involvement of male consumers in logistics-related transactions, particularly in business and delivery-oriented activities. In terms of age distribution, most respondents are within the productive age group of 26-35 years (42%), followed by those aged 18-25 years (30%). This indicates that halal logistics services are mainly utilized by young and economically active consumers who frequently engage in online shopping and delivery services. Regarding experience, half of the respondents (50%) have used halal logistics services for one to three years, while 25% have more than three years of experience. This suggests that the majority of respondents possess adequate familiarity with halal logistics operations, enabling them to provide reliable assessments of service quality, halal attributes, and perceived value constructs examined in this study.

Model Evaluation

Measurement Model (*Outer Model)*

Measurement model evaluation includes convergent validity, discriminant validity, and reliability to assess internal consistency and model accuracy. The analysis was carried out with the PLS algorithm to ensure the relationship between constructs and the reliability of the measurement process.

Convergent Validity

An indicator is considered valid if it has a positive loading factor above 0.7 and an AVE value of more than 0.5. The loading factor shows the contribution of the item to the measured construct, the higher the value, the stronger the indicator's representation of the latent variable. Details of the loading value of each item are presented in Table 3.

Table 3 Convergent validity test

Variables	Item	Loading Factor	AVE	Description
Halal Logistics Attributes	X1.1	0.915	**0.805**	Valid
	X1.2	0.877		Valid
	X1.3	0.886		Valid
	X1.4	0.911		Valid
	X1.5	0.897		Valid
Logistics Service Quality	X2.1	0.789	**0.663**	Valid
	X2.2	0.776		Valid
	X2.3	0.819		Valid
	X2.4	0.833		Valid
	X2.5	0.853		Valid
Emotional Value	X3.1	0.795	**0.641**	Valid
	X3.2	0.777		Valid
	X3.3	0.793		Valid
	X3.4	0.803		Valid

Variables	Item	Loading Factor	AVE	Description
	X3.5	0.834		Valid
Functional Value	X4.1	0.864	**0.734**	Valid
	X4.2	0.863		Valid
	X4.3	0.841		Valid
	X4.4	0.863		Valid
	X4.5	0.853		Valid
Intention to Adopt Halal Logistics	X5.1	0.850	**0.682**	Valid
	X5.2	0.865		Valid
	X5.3	0.702		Valid
	X5.4	0.828		Valid
	X5.5	0.874		Valid

Source(s): Authors' own work

As shown in Table 3, the loading factor for each indicator exceeds 0.7, and the AVE values are above 0.5. Therefore, these indicators are considered valid for measuring the latent variables

Discriminant Validity

Discriminant validity indicates the extent to which a construct is different from other constructs in the model. This validity is tested through cross-loading values and the Fornell-Larcker criterion, where values above 0.7 are considered adequate. In addition, discriminant validity is also declared good if the square root of the AVE of a construct is greater than the correlation of the construct with other constructs. Table 4 presents the Fornell–Larcker criterion results, showing that the diagonal values are consistently higher than the corresponding inter-construct correlations, thereby confirming satisfactory discriminant validity for all constructs.

Table 4 Fornell-Larcker Criterion Value

Variable	Emotional Value	Functional Value	Halal Logistics Attributes	Intention to Adopt Halal Logistics	Logistics Service Quality
Emotional Value	**0.801**				
Functional Value	0.470	**0.857**			
Halal Logistics Attributes	0.591	0.500	**0.897**		
Intention to Adopt Halal Logistics	0.602	0.552	0.829	**0.805**	
Logistics Service Quality	0.548	0.525	0.438	0.486	**0.826**

Source(s): Authors' own work

Table 5 Value of cross loading

Item	Emotional Value	Functional Value	Halal Logistics Attributes	Intent to Adopt Halal Logistics	Logistics Service Quality
X1.1	0.526	0.418	**0.915**	0.337	0.616
X1.2	0.463	0.416	**0.877**	0.337	0.544
X1.3	0.619	0.495	**0.886**	0.447	0.571
X1.4	0.532	0.461	**0.911**	0.434	0.578
X1.5	0.500	0.446	**0.897**	0.400	0.585
X2.1	0.481	0.423	0.809	0.369	**0.789**
X2.2	0.500	0.435	0.579	0.372	**0.776**
X2.3	0.459	0.414	0.495	0.378	**0.819**
X2.4	0.554	0.549	0.697	0.495	**0.833**
X2.5	0.499	0.438	0.530	0.372	**0.853**
X3.1	**0.795**	0.395	0.549	0.359	0.589
X3.2	**0.777**	0.327	0.440	0.300	0.576

Item	Emotional Value	Functional Value	Halal Logistics Attributes	Intent to Adopt Halal Logistics	Logistics Service Quality
X3.3	**0.793**	0.364	0.541	0.338	0.519
X3.4	**0.803**	0.394	0.534	0.374	0.533
X3.5	**0.834**	0.385	0.563	0.335	0.553
X4.1	0.595	**0.864**	0.493	0.388	0.632
X4.2	0.677	**0.863**	0.397	0.396	0.563
X4.3	0.693	**0.841**	0.439	0.419	0.596
X4.4	0.603	**0.863**	0.483	0.483	0.575
X4.5	0.634	**0.853**	0.540	0.496	0.680
X5.1	0.399	0.364	0.461	**0.864**	0.421
X5.2	0.397	0.363	0.386	**0.863**	0.363
X5.3	0.357	0.341	0.285	**0.841**	0.319
X5.4	0.475	0.363	0.560	**0.863**	0.470
X5.5	0.365	0.253	0.396	**0.853**	0.359

Source(s): Authors' own work

As shown in Table 3, the cross-loading values for all items exceed 0.70. Additionally, each item shows the strongest loading with its designated latent variable, outperforming its correlation with other latent variables. This suggests that each variable effectively represents its corresponding latent construct, thereby confirming the discriminant validity of all items.

Reliability

In PLS analysis, reliability is assessed using two key indicators: Cronbach's alpha and composite reliability. A construct is considered reliable when both measures exceed the threshold of 0.7. Table 6 presents the detailed values for Cronbach's alpha and composite reliability, confirming the internal consistency of each construct in the model.

Table 6 Reliability Test

Variable	Cronbach's Alpha	Composite Reliability
Emotional Value	0.860	0.899
Functional Value	0.910	0.932
Halal Logistics Attributes	0.939	0.954
Intention to Adopt Halal Logistics	0.882	0.914
Logistics Service Quality	0.873	0.908

Source(s): Authors' own work

Table 6 shows that all composite reliability scores exceed the 0.7 threshold, and Cronbach's alpha values also exceed the recommended limit.

Structural Model (Inner Model)

This phase focuses on analysing the structural relationships among the latent constructs, determining the statistical significance of these connections, and reviewing the R-squared values to assess the explanatory power of the proposed model.

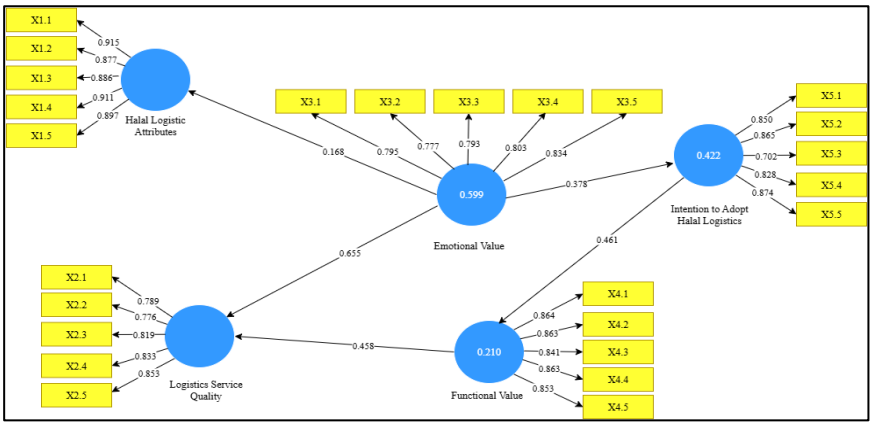

Figure 2 Structural Model

Source(s): Authors' own work

The evaluation of the PLS structural model starts with examining the R-squared values for each dependent latent variable. Table 7 presents the results of the R-squared estimation using PLS.

R Square

Table 7 *R Square* Testing Results

Variables	*R-Square*	*Adjusted R-Square*
Emotional Value	0.599	0.597
Functional Value	0.210	0.208
Intention to Adopt Halal Logistics	0.422	0.417

Source(s): Authors' own work

Table 7 shows the R^2 value of each endogenous variable. Emotional Value has an R^2 of 0.599, indicating that about 60% of its variance is explained by halal attributes and service quality, thus supporting the first and second hypotheses. Functional Value recorded an R^2 of 0.210, indicating a limited contribution from service quality, as hypothesized in the third hypothesis. Meanwhile, Intention to Adopt Halal Logistics had an R^2 of 0.422, indicating the moderating influence of emotional and functional value, in line with the fourth to eighth hypotheses. Overall, these results emphasize the central role of emotional value as a mediator in the relationship between attributes and services and intention to adopt halal logistics.

Predictive Relevance (Q Square)

Q squared (Q^2) measures the predictive ability of the model through the blindfolding procedure. A Q^2 value above zero indicates that the model is able to accurately predict the endogenous variable, while a value below zero indicates a prediction weakness.

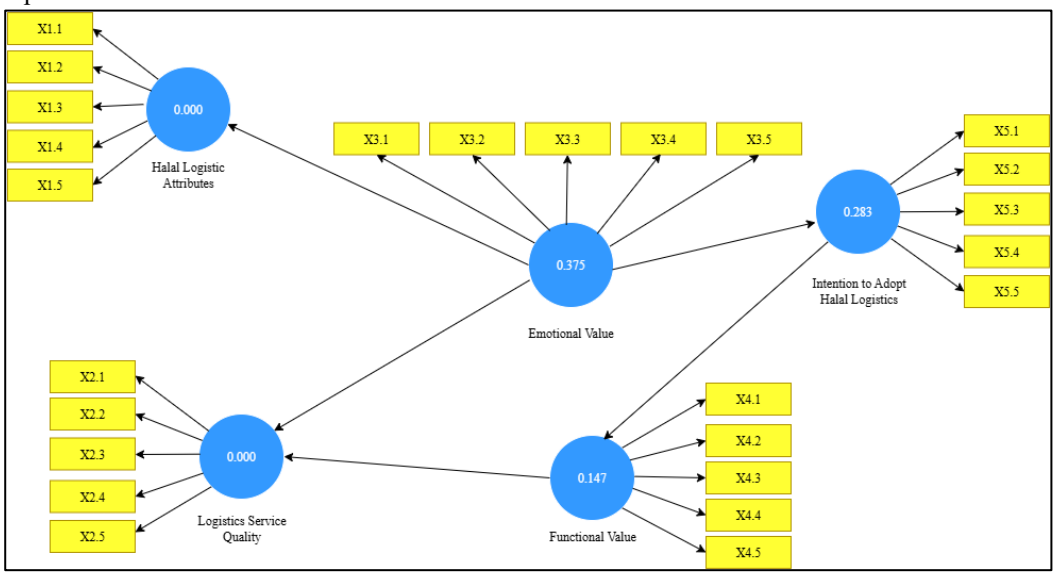

Figure 3 Predictive Relevance

Source(s): Authors' own work

Based on the figure above, it can be concluded in the table below:

Table 8 Predictive Relevance

Variables	Q^2 (=1-SSE/SSO)	Description
Emotional Value	0.375	Has predictive relevance value
Functional Value	0.147	Has predictive relevance value
Intention to Adopt Halal Logistics	0.283	Has predictive relevance value

Source(s): Authors' own work

As presented in Table 8, the Q-square value for the dependent variable exceeds 0. This indicates that the model has good predictive relevance, as the Q-square value is positive.

Hypothesis Testing Results

Structural model testing was conducted to explain the relationship between variables in the study, using PLS software. The hypothesis is supported if the p-value < 0.05 and the t-value > 1.960, which indicates a statistically significant effect of exogenous variables on endogenous ones. A detailed explanation of the hypothesis testing results is presented in the next section.

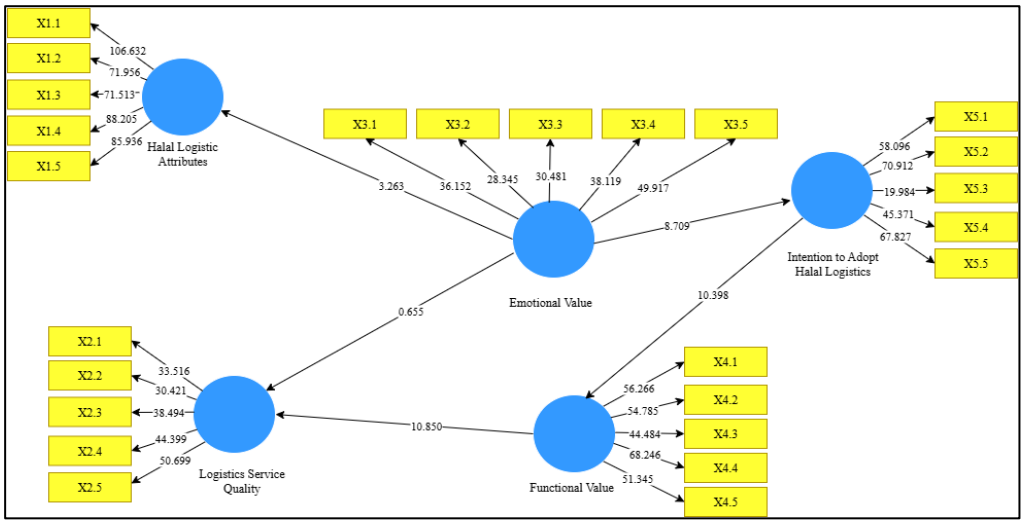

Figure 4 Hypothesis Testing
Source(s): Authors' own work

Table 9 Hypothesis Testing

Hypothesis	Path	Original Sample (β)	T-Statistic	P-Value	Conclusion
H1	Halal Logistics Attributes → Emotional Value	0.168	3.292	0.001	Supported
H2	Logistics Service Quality → Emotional Value	0.655	11.669	0	Supported
H3	Logistics Service Quality → Functional Value	0.458	11.203	0	Supported
H4	Halal Logistics Attributes → Emotional Value → Adoption Intention	0.064	3.000	0.003	Supported
H5	Logistics Service Quality → Emotional Value → Adoption Intention	0.248	6.634	0	Supported
H6	Logistics Service Quality → Functional Value → Adoption Intention	0.211	7.952	0	Supported
H7	Emotional Value → Adoption Intention	0.378	8.217	0	Supported
H8	Functional Value → Adoption Intention	0.461	9.408	0	Supported

Source(s): Authors' own work

In PLS, the statistical evaluation of each hypothesized relationship is performed through simulation, specifically using the bootstrapping method applied to the sample. The results of the bootstrapping analysis for the various hypotheses are outlined below:

H1: Halal Logistics Attributes → Emotional Value

Results show a significant effect (β = 0.168; t = 3.292; p = 0.001), supporting the hypothesis that halal logistics attributes positively influence emotional value. This suggests that the clarity of certification and separation of halal facilities shape emotional perceptions such as a sense of security and consumer trust.

H2: Logistics Service Quality → Emotional Value

There is a positive and significant effect (β = 0.655; t = 11.669; p = 0.000). This means that good service quality such as speed and reliability strengthens the emotional aspects of consumers towards halal logistics services.

H3: Logistics Service Quality → Functional Value

Supported by significant results (β = 0.458; t = 11.203; p = 0.000), indicating that the perception of efficiency, convenience, and practicality of logistics services is functionally influenced by the quality of service received by consumers.

H4: Halal Logistics Attributes → Emotional Value → Intention to Adopt
The mediation effect is significant (β = 0.064; t = 3.000; p = 0.003). This indicates that the effect of halal logistics attributes on adoption intention occurs indirectly through emotional value.
H5: Logistics Service Quality → Emotional Value → Intention to Adopt
There is a significant mediating effect (β = 0.248; t = 6.634; p = 0.000), indicating that service quality also influences adoption intention through strengthening emotional value.
H6: Logistics Service Quality → Functional Value → Intention to Adopt
Significant results (β = 0.211; t = 7.952; p = 0.000), indicating the existence of a mediation path through functional value in explaining the effect of service quality on halal logistics adoption intention.
H7: Emotional Value → Intention to Adopt
Proven significant (β = 0.378; t = 8.217; p = 0.000), which indicates that the higher the perceived emotional value, the greater the consumer's intention to adopt halal logistics.
H8: Functional Value → Intention to Adopt
Statistically supported (β = 0.461; t = 9.408; p = 0.000), proving that the perception of functional benefits also increases the intention to adopt.

The results of this study consistently show that emotional value and functional value are the main mediators in bridging the influence of halal logistics attributes and service quality on halal logistics adoption intention. This finding supports the theory of customer perceived value which emphasizes that consumer decisions are not only determined by functional benefits, but also by the emotional value attached to the services received. The dominant role of service quality in influencing both types of value (emotional and functional) indicates that consumers strongly consider aspects of speed, reliability and professionalism of services in shaping perceptions of halal logistics. This is an important input for halal logistics service providers to not only focus on sharia compliance, but also on overall operational quality.

Practically, the findings emphasize the need for an integrative approach in developing halal logistics systems. Industry players need to combine halal standards with customer experience-based service improvement strategies to drive wider adoption. On the other hand, the government can also use these findings to strengthen regulations and incentives to support a reliable and efficient halal logistics ecosystem.

4.2. Discussion

The findings indicate that service quality plays a dominant role in shaping both emotional and functional values, suggesting that consumers prioritize performance reliability even in halal-sensitive services. This aligns with customer perceived value theory, which emphasizes that value perceptions arise from both affective and utilitarian evaluations. Moreover, halal logistics attributes primarily influence emotional value, indicating that religious compliance strengthens trust and psychological comfort rather than operational efficiency. This supports previous findings that halal assurance mechanisms mainly enhance emotional confidence rather than technical performance perception.

CONCLUSION

All proposed hypotheses are supported by the empirical findings, confirming that emotional value and functional value play central mediating roles in shaping consumers' intention to adopt halal logistics services. The results demonstrate that logistics service quality exerts a stronger and broader influence, as it significantly affects both emotional and functional value perceptions, whereas halal logistics attributes mainly strengthen emotional value through enhanced feelings of trust and psychological comfort. These findings reinforce the customer perceived value theory, suggesting that consumer adoption decisions are driven by both affective and utilitarian evaluations of service experiences. From a practical perspective, the results indicate that compliance with Shariah principles alone is insufficient to encourage widespread adoption of halal logistics services. Logistics providers must also prioritize service performance, reliability, and customer experience to strengthen perceived value and build sustainable consumer trust. Therefore, the development of halal logistics systems should adopt a holistic approach that integrates religious compliance with operational excellence and customer-oriented service strategies.

For future research, additional psychological and behavioural factors such as perceived risk, religiosity, digital trust, and technology acceptance may be incorporated to provide a more comprehensive understanding of halal logistics adoption behaviour. Future studies may also include logistics service providers and regulators as respondents to capture supply-side and policy perspectives. Furthermore, longitudinal research designs are recommended to examine changes in consumer perceptions and adoption behaviour over time, thereby providing deeper insights into the long-term sustainability of halal logistics implementation.

REFERENCE

Adhiwibowo, W., Widayat, W., & Syafei, W. A. (2025). Design of dual blockchain-based with Point of Authority for halal traceability system application on fresh meat-based supply chain. *Results in Engineering*, *26*(7), 105133.

https://doi.org/10.1016/j.rineng.2025.105133
Alimusa, L. O., Ratnasari, R. T., Osman, I., Hendratmi, A., Hasib, F. F., & Syaifullah, S. (2025). Revisiting the literature of halal and Islamic marketing: a bibliometric review and future directions. *Journal of Islamic Accounting and Business Research*, *1*(1), 1–23. https://doi.org/10.1108/JIABR-03-2025-0144
Amin, C., Wahab Hasyim, A., Sun'an, M., Yetty, Millanida Hilman, R., & Fahmiasari, H. (2024). Impact of increasing local economic capacity on reducing maritime logistics costs in island Province of eastern Indonesia: A dynamic system approach. *Transportation Research Interdisciplinary Perspectives*, *27*(11), 101195. https://doi.org/10.1016/j.trip.2024.101195
Aslan, H. (2023). The influence of halal awareness, halal certificate, subjective norms, perceived behavioral control, attitude and trust on purchase intention of culinary products among Muslim costumers in Turkey. *International Journal of Gastronomy and Food Science*, *32*(March), 100726. https://doi.org/10.1016/j.ijgfs.2023.100726
Bening, S. A., Dachyar, M., Pratama, N. R., Park, J., & Chang, Y. (2023). E-Commerce Technologies Adoption Strategy Selection in Indonesian SMEs Using the Decision-Makers, Technological, Organizational and Environmental (DTOE) Framework. *Sustainability*, *15*(12), 9361. https://doi.org/10.3390/su15129361
Budiman, J., & William. (2025). Analisa Efisien Biaya Logistik Dalam Pemanfaatan Transportasi Multimoda. *Syntax Literate: Jurnal Ilmiah Indonesia*, *10*(1), 102–113.
Hashim, N. I., Mohd Fauzi, N., & Mohamad, U. M. S. (2025). The Moderating Role of Influencer Marketing in the Relationship between Customer Perception and Halal Food Products Purchase Behaviour. *Social and Management Research Journal*, *22*(1), 65–3. https://doi.org/10.24191/smrj.v22i1
Kurniawan, J., Pratiwi, S. W., Izzuddin, J. H., Prasetyo, A. K., Nasution, N. A., Firdaus, M. I., & Gafar, A. (2023). The Implementation of `Halal Logistics' During the COVID-19 Pandemic to Optimize the Transportation of Halal Products at PT BGR Logistics , Jakarta. *International Conference on Advance & Scientific Innovation*, *2023*(1), 806–817. https://doi.org/10.18502/kss.v8i9.13394
Muslih, M., Gustian, D., Somantri, ., & Hasman, D. (2025). GIS Combined with Multivariate Analysis in Supporting Digitalization Supply Chain Management of Halal Products: The Case Study of MSMEs in West Java Indonesia. *Engineering, Technology & Applied Science Research*, *15*(2), 21152–21158. https://doi.org/10.48084/etasr.9991
Noman, A. Al, Afif, M. M., Huq, A. M. R., Rahman, A. F. F., & Islam, M. E. A. (2025). Blockchain-Driven Halal Supply Chains: Enhancing Transparency and Efficiency While Ensuring Shariah Adherence. *International Journal of Innovative Science and Research Technology*, 1992–1997. https://doi.org/10.38124/ijisrt/25apr1001
Noor, N. (2025). Halal service quality: systematic review, conceptual model and future research. *Journal of Islamic Accounting and Business Research*, *21*(1), 211–236. https://doi.org/10.1108/JIABR-06-2024-0211
Prakoso, M. R., Berawi, M. A., & Gunawan. (2023). Evaluation of Logistics System Performance-Based on Indonesian Government Policy. *Proceedings of the 5th International Conference on Rehabilitation and Maintenance in Civil Engineering - ICRMCE 2021*, 791–797. https://doi.org/10.1007/978-981-16-9348-9_70
Pratiwi, S. W., Saribanon, E., & Juhri, A. (2024). Sosialisasi Tantangan Implementasi Logistik Halal di Indonesia. *Jurnal Pengabdian Masyarakat Dan Penelitian Terapan (JPMPT)*, *2*(3), 133–138.
Putri, A. S., Susilo, N. R., Sakti, A. Y. N., & Wicaksana, D. E. P. (2024). The Development of Halal Supply Chain Research in Indonesia: A Comparative Study. *Jurnal Teknik Industri*, *25*(2), 97–118. https://doi.org/10.22219/JTIUMM.Vol25.No2.97-118
Saidah, F., & Lestari, Y. D. (2021). Halal Logistics Practices: Logistics Service Provider Cases in Indonesia. *International Journal of Nusantara Islam*, *9*(1), 1–17. https://doi.org/10.15575/ijni.v9i1.10784
Santoso, P. B., Armono, H. D., Gurning, R. O. S., & Cahyagi, D. (2025). Beyond River Port Logistics: Maximizing Land-Constrained Container Terminal Capacity with Agile and Lean Operation. *Sustainability*, *17*(13), 5773. https://doi.org/10.3390/su17135773
Santoso, S., Nurhidayat, R., Mahmud, G., & Arijuddin, A. M. (2021). Measuring the Total Logistics Costs at the Macro Level: A Study of Indonesia. *Logistics*, *5*(4), 68. https://doi.org/10.3390/logistics5040068
Saribanon, E., & Setiawan, A. (2023). Tantangan Implementasi Logistik Halal di Indonesia. *Jurnal Manajemen Bisnis Transportasi Dan Logistik*, *9*(2), 1–8.
Sutrisno, E., & Nainggolan, R. (2025). Unlocking the Potential of Digital Payment: How Financial Habits Drive Digital Payment Adoption Among Indonesia's MSMEs. *Jurnal Aplikasi Manajemen*, *23*(1), 111–133. https://doi.org/10.21776/ub.jam.2025.023.1.07
Syakirunn'iam, L., Sain, Z. H., & Lawal, U. S. (2025). Innovation strategies and competitiveness of the multisectoral halal industry in the digital era and ASEAN economic integration. *International Journal of Halal Industry*, *1*(2), 181–203. https://doi.org/10.20885/ijhi.vol1.iss2.art5
Tumiwa, R. A. F., Ningsih, G. M., Romarina, A., Setyadjit, Slamet, B., Waruwu, E., Ie, M., & Utomo, Y. T. (2023). Investigating halal food Supply chain management, halal certification and traceability on SMEs performance. *Uncertain Supply Chain Management*, *11*(4), 1889–1896. https://doi.org/10.5267/j.uscm.2023.6.003
Vanany, I., Soon-Sinclair, J. M., & Rahkmawati, N. A. (2024). Assessment of halal blockchain in the Indonesian food

industry. *Journal of Islamic Marketing*, *15*(6), 1498–1518. https://doi.org/10.1108/JIMA-05-2022-0122

Wei, W., Prasetyo, Y. T., Belmonte, Z. J. A., Cahigas, M. M. L., Nadlifatin, R., & Gumasing, M. J. J. (2025). Applying the technology acceptance model – Theory of planned behavior (TAM-TPB) model to study the acceptance of building information modeling (BIM) in green building in China. *Acta Psychologica*, *254*(7), 104790. https://doi.org/10.1016/j.actpsy.2025.104790