

THE INFLUENCE OF SERVICE QUALITY AND PRODUCT KNOWLEDGE ON CUSTOMER LOYALTY THROUGH CUSTOMER SATISFACTION AT PT RUKUN PUTERA BERSAMA

Fatma Nur Laila¹⁾, Mohamad Trio Febriyantoro²⁾

Ciputra University Surabaya, School of Business and Management CitraLand, Indonesia

E-mail: fnurlaila@magister.ciputra.ac.id¹⁾ trio.febriyantoro@magister.ciputra.ac.id²⁾

Abstract: Competition in the medical device distribution industry is becoming increasingly intense, prompting companies to boost customer loyalty through service quality and product knowledge. This study aims to analyze the influence of service quality and product knowledge on customer loyalty through customer satisfaction at PT Rukun Putera Bersama. This study employs a quantitative approach using a survey method administered to 95 Business-to-Customer (B2C) customers selected via purposive sampling. Data were collected via a questionnaire using a Likert scale and analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 4. The results indicate that service quality and product knowledge have a positive and significant effect on both customer satisfaction and customer loyalty. Customer satisfaction also has a positive and significant effect on customer loyalty and was found to partially mediate the effects of service quality and product knowledge on customer loyalty. This study provides an empirical contribution to explain the development of customer loyalty through the roles of service quality, product knowledge, and customer satisfaction in the context of the medical device distribution industry, a topic that has been limited in previous research.

Keywords: *service quality, product knowledge, customer satisfaction, customer loyalty.*

Submitted: 2026-08-06; Revised: 2026-09-01; Accepted: 2026-09-07

1. Introduction

The medical equipment distribution industry in Indonesia is experiencing rapid growth in line with rising demand for healthcare services, advances in medical technology, and an increase in the number of healthcare facilities. These conditions have led to a rise in the number of medical equipment manufacturers and distributors, making competition within the industry increasingly fierce. Data from the Ministry of Health of the Republic of Indonesia show that as of 2025, there are 812 registered medical device manufacturers and 5,661 registered distributors. This increase in the number of businesses provides customers with more options when selecting medical device suppliers, requiring companies to maintain their competitive edge through high-quality service and accurate product information.

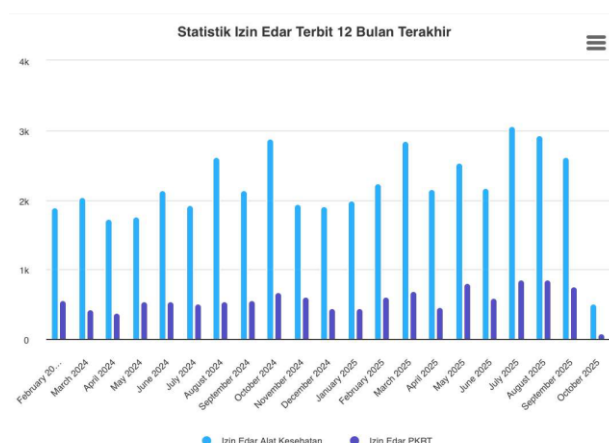


Figure 1. Statistics on the Legal Status of the Distribution of Medical Devices and PKRT in Indonesia (February 2024 – October 2025)

Source: Directorate of Medical Device Production and Distribution, Ministry of Health of the Republic of Indonesia (2025)

The increase in the number of medical device and PKRT marketing authorizations indicates that more products and businesses are entering the medical device industry. This situation gives customers more choices of distributors, making customer loyalty a key challenge for companies. Customers no longer consider price alone; they also evaluate service quality, response speed, ease of communication, and the clarity of product information before making a purchase. Increasing competition is driving companies to build long-term relationships with customers by improving service quality and deepening their understanding of products.

PT Rukun Putera Bersama is a family owned company that has been in the medical device distribution business since 2000. Although it has maintained long-standing business relationships with its customers, the company faces challenges in retaining customer loyalty. Based on the company's operational data, the number of active customers shows a downward trend in several segments during the 2023–2025 period. In the Business-to-Business (B2B) segment, the number of active customers is projected to decline from 133 in 2023 to 95 in 2025, while the Business to Government (B2G) segment is expected to see a decline in 2024 before rebounding in 2025. Meanwhile, the Business to Customer (B2C) segment also saw a decline in the number of active customers compared to previous years, indicating challenges in retaining customer relationships amid increasingly fierce competition.

In addition to the decline in the number of active customers, the company's observations indicate that some customers have begun comparing offers with other distributors, requesting reconfirmation of product specifications, and showing changes in transaction frequency. These conditions indicate that customer loyalty is no longer built solely through long-term relationships but is also influenced by the customer experience during interactions with the company. On the other hand, competition in the Business to Customer (B2C) segment is intensifying with the emergence of other medical device distributors, medical supply stores, pharmacies, and marketplaces such as Shopee and Tokopedia, which offer similar products at competitive prices. In addition to price, some competitors also offer faster customer service responses, ease of communication, ordering flexibility, and more comprehensive product information, leading customers to become more selective in choosing a distributor.

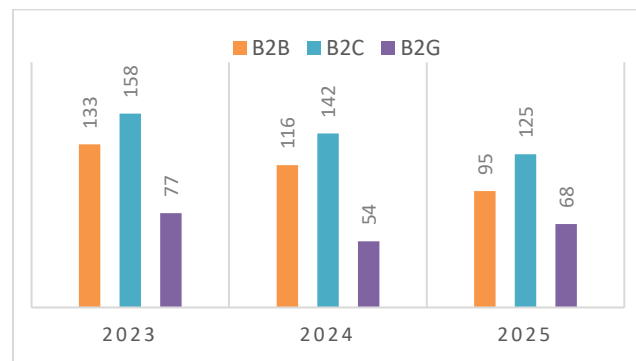


Figure 2. Decline in the Number of Active Customers by Segment
Source: Internal Operational Data of PT. Rukun Putera Bersama (2023–2025).

In this context, service quality and product knowledge are two factors expected to play a key role in building customer loyalty. Findings from observations and interviews with company representatives indicate that there are still challenges in the service process, such as inconsistent responses and suboptimal communication of product information. Additionally, B2C customers still require explanations regarding the specifications, benefits, and usage of medical devices before making a purchase. Therefore, improving service quality and product knowledge is a key strategy for enhancing customer satisfaction while maintaining customer loyalty.

Theoretically, service quality refers to a company's ability to provide service that meets or exceeds customer expectations. Responsive, reliable service that instills trust is believed to enhance customer satisfaction and foster loyalty. Meanwhile, product knowledge describes a company's ability to provide information about a product's characteristics, benefits, specifications, and usage, thereby helping customers make purchasing decisions. According to Expectation Confirmation Theory (ECT), customers will be satisfied if the performance they receive meets or exceeds their expectations, and that satisfaction subsequently fosters customer loyalty.

Furthermore, the results of previous studies still show inconsistencies. Some studies have found that service quality has a direct effect on customer loyalty, while others indicate that this effect occurs through customer satisfaction as a mediating variable. Similar inconsistencies have also been found in the relationship between product knowledge and customer loyalty, where some studies show a positive effect, while others find no significant effect. These differing results indicate that the relationships among the variables are still influenced by industry context and customer characteristics, thus requiring further testing within the medical device distribution industry.

Research on the relationship between service quality, product knowledge, customer satisfaction, and customer loyalty has been extensively conducted in the banking, retail, e-commerce, and service sectors. However, studies examining the relationship among these four variables simultaneously in the medical device distribution industry particularly among Business to Customer (B2C) customers remain relatively limited. Therefore, this study aims to analyze the influence of service quality and product knowledge on customer loyalty through customer satisfaction at PT Rukun Putera Bersama. The results of this study are expected to provide an empirical contribution to the development of marketing literature, particularly regarding the formation of customer loyalty in the medical device distribution

industry, while also serving as input for the company in formulating strategies to improve service quality and strengthen product knowledge.

Based on the literature and the identified research gap, this study proposes the following hypotheses:

H1: Service quality has a positive effect on customer loyalty.

H2: Product knowledge has a positive effect on customer loyalty.

H3: Service quality has a positive effect on customer satisfaction.

H4: Product knowledge has a positive effect on customer satisfaction.

H5: Customer satisfaction has a positive effect on customer loyalty.

H6: Customer satisfaction mediates the relationship between service quality and customer loyalty.

H7: Customer satisfaction mediates the relationship between product knowledge and customer loyalty.

2. Literature Review

2.1. Theoretical Foundation

Expectation Confirmation Theory (ECT) developed by Oliver (1980) explains customer satisfaction as the result of a comparison between initial expectations and the actual performance perceived after consuming a product or service. Customers initially form expectations based on previous experiences, market information, and communication from service providers. These expectations subsequently serve as a reference for evaluating actual performance. When perceived performance meets or exceeds expectations, positive confirmation occurs and leads to higher customer satisfaction. Conversely, performance below expectations results in negative disconfirmation and dissatisfaction. Satisfaction formed through this confirmation process subsequently influences customers' post-purchase attitudes and behavioral intentions, including repurchase intentions and loyalty.

In this study, ECT provides the theoretical foundation for explaining the relationships among service quality, product knowledge, customer satisfaction, and customer loyalty. Product knowledge contributes to the formation of customer expectations by providing information regarding product characteristics, benefits, and functions, whereas service quality represents the actual performance experienced by customers during their interactions with the company. When the information and services received meet or exceed customer expectations, confirmation occurs, resulting in greater customer satisfaction and subsequently encouraging customer loyalty. Thus, customer satisfaction serves as an important mechanism linking customers' evaluation of company performance to their subsequent behavioral responses.

2.2. Previous Studies

Service Quality (X1)

Service quality refers to customers' evaluation of the services received compared with their expectations. Parasuraman et al. (1988) conceptualized service quality through five dimensions: reliability, responsiveness, assurance, empathy, and tangibles. Reliability represents the ability to provide accurate and consistent services; responsiveness reflects the willingness to respond promptly to customer needs; assurance concerns employees' knowledge, competence, and professionalism; empathy reflects personalized attention to customers; and tangibles represent the physical aspects supporting service delivery. Consistent service quality contributes to customer satisfaction, trust, and the development of long-term relationships with a company (van Esch et al., 2020; Knoppen et al., 2022). In the

medical equipment distribution industry, service quality is particularly important because customers require not only appropriate products but also reliable delivery, responsive communication, accurate information, and professional assistance. Therefore, higher service quality is expected to strengthen both customer satisfaction and customer loyalty.

Product Knowledge (X2)

Product knowledge refers to the customer's understanding of a product, including its attributes, benefits, functions, and ability to provide solutions to customer needs. Adequate product knowledge enables customers to evaluate product suitability and make more informed purchasing decisions. In the medical device distribution industry, product knowledge is particularly important because customers may encounter products with different specifications, functions, and applications. Clear and accurate information provided by the company can help customers develop a better understanding of the products and reduce uncertainty during the purchasing process. Therefore, higher product knowledge is expected to increase customer confidence, satisfaction, and loyalty.

Customer Satisfaction (M)

Customer satisfaction refers to customers' evaluation of whether the performance of a product or service meets their prior expectations. In accordance with ECT, satisfaction emerges when perceived performance meets or exceeds expectations, whereas dissatisfaction occurs when performance falls below expectations (Oliver, 1980). Customer satisfaction is therefore not merely an immediate evaluation of a transaction but also an important antecedent of subsequent customer behavior. Previous studies demonstrate that customer satisfaction contributes to customer loyalty and may function as a mediating mechanism between company-related factors and loyalty. Kaulu et al. (2025), for example, found that customer satisfaction mediates the relationship between service quality and customer loyalty, while Soliha et al. (2020) demonstrated its mediating role in the relationship between product knowledge and loyalty. These findings indicate that positive evaluations of service and product information may first generate satisfaction before developing into long term loyalty.

Customer Loyalty (Y)

Customer loyalty reflects customers' commitment to maintaining their relationship with a company, including their willingness to make repeat purchases and recommend the company to others. Loyalty develops through repeated positive experiences that strengthen customers' confidence in the company and reduce their willingness to switch to alternative providers. In the context of medical equipment distribution, customer loyalty is particularly important because relationships between distributors and customers tend to involve repeated transactions and continued interactions. Consequently, maintaining service performance and providing reliable product information are expected to strengthen customers satisfaction and ultimately their willingness to continue purchasing from the same distributor.

The Effect of Service Quality on Customer Loyalty

Service quality reflects customers' evaluation of the services provided by a company based on their expectations and actual experiences. In the medical device distribution industry, service quality is important because customers require reliable delivery, responsive communication, accurate information, and professional assistance. When customers receive consistent and responsive services, their confidence in the company can increase,

encouraging them to maintain their relationship and make repeat purchases. Previous studies have shown that service quality has a positive effect on customer loyalty (Ashiq & Hussain, 2024 Kaulu et al., 2025). Therefore, better service quality is expected to strengthen customer loyalty.

H1: Service Quality has a positive effect on Customer Loyalty.

The Effect of Product Knowledge on Customer Loyalty

Product knowledge enables customers to understand product attributes, benefits, functions, and suitability for their needs. In the medical device distribution context, adequate product information is particularly important because customers may need to understand technical specifications and product usage before making purchasing decisions. Clear and accurate product information can reduce uncertainty and increase customers' confidence in the products offered by the company. Greater confidence may encourage customers to repurchase and maintain their relationship with the company. Soliha et al. (2020) found that consumer product knowledge positively influences customer loyalty. Therefore, higher product knowledge is expected to contribute to stronger customer loyalty.

H2: Product Knowledge has a positive effect on Customer Loyalty.

The Effect of Service Quality on Customer Satisfaction

Customer satisfaction is formed through customers' evaluation of the performance they receive compared with their prior expectations. Based on Expectation Confirmation Theory, satisfaction occurs when perceived performance meets or exceeds customer expectations. Service quality represents an important aspect of the actual performance experienced by customers during their interactions with a company. Reliable, responsive, and professional services can create positive experiences and increase the likelihood that customers feel satisfied. Previous studies have demonstrated a positive relationship between service quality and customer satisfaction (Abdul et al., 2024; Kaulu et al., 2025). Therefore, higher service quality is expected to increase customer satisfaction.

H3: Service Quality has a positive effect on Customer Satisfaction.

The Effect of Product Knowledge on Customer Satisfaction

Product knowledge provides customers with information that helps them evaluate whether a product is appropriate for their needs. In the medical device distribution industry, information regarding product characteristics, benefits, functions, and usage can reduce uncertainty and help customers make more informed purchasing decisions. When the information provided is clear and consistent with the actual product experience, customers are more likely to perceive that their expectations have been fulfilled. This condition can increase customer satisfaction. Previous research by Anaztasya et al. (2025) and Soliha et al. (2020) found that product knowledge has a positive effect on customer satisfaction. Therefore, better product knowledge is expected to increase customer satisfaction.

H4: Product Knowledge has a positive effect on Customer Satisfaction.

The Effect of Customer Satisfaction on Customer Loyalty

Customer satisfaction represents the extent to which customers perceive that their expectations have been fulfilled through their experience with a company. According to Expectation Confirmation Theory, positive confirmation between expectations and actual performance produces satisfaction, which subsequently influences customers' post-purchase

behavioral intentions. Satisfied customers are more likely to repurchase, maintain their relationship with the company, and recommend the company to others. Previous studies have also demonstrated a positive relationship between customer satisfaction and customer loyalty (Naini et al., 2022; Supriyanto et al., 2021). Therefore, higher customer satisfaction is expected to strengthen customer loyalty.

H5: Customer Satisfaction has a positive effect on Customer Loyalty.

The Mediating Role of Customer Satisfaction in the Effect of Service Quality on Customer Loyalty

Service quality can influence customer loyalty not only directly but also through customer satisfaction. High-quality service creates positive customer experiences that can fulfill or exceed customer expectations, thereby increasing satisfaction. Satisfied customers are subsequently more likely to repurchase and maintain their relationship with the company. Thus, customer satisfaction can serve as a mechanism through which service quality is translated into customer loyalty. Previous studies have demonstrated the mediating role of customer satisfaction in the relationship between service quality and customer loyalty (Kaulu et al., 2025; Isnati et al., 2024). Therefore, customer satisfaction is expected to mediate the relationship between service quality and customer loyalty.

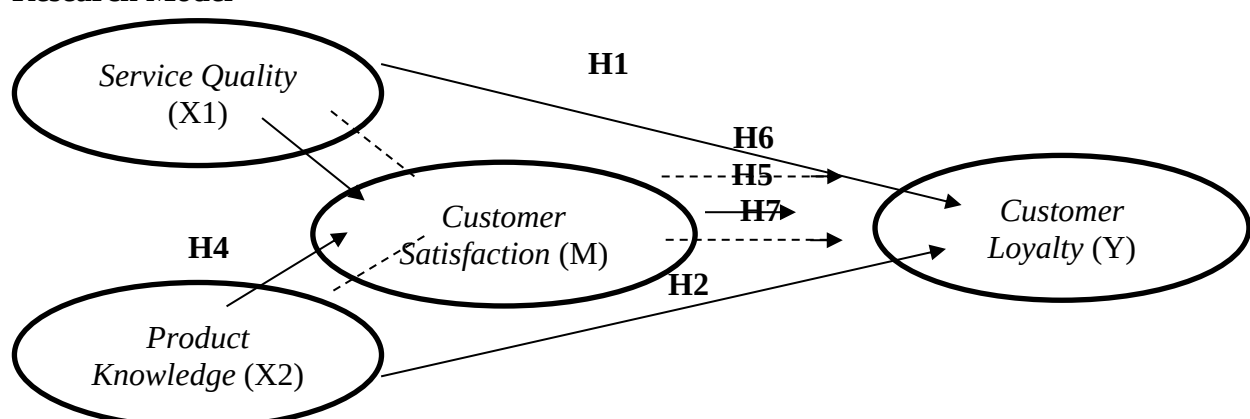
H6: Customer Satisfaction mediates the relationship between Service Quality and Customer Loyalty.

The Mediating Role of Customer Satisfaction in the Effect of Product Knowledge on Customer Loyalty

Product knowledge can also influence customer loyalty through customer satisfaction. Adequate product information helps customers understand product characteristics, benefits, and functions, allowing them to evaluate whether the product meets their needs. When the product experience is consistent with the information received, customers are more likely to experience satisfaction. This satisfaction can subsequently encourage repeat purchases and strengthen their relationship with the company. Soliha et al. (2020) found that customer satisfaction mediates the relationship between consumer product knowledge and customer loyalty. Therefore, customer satisfaction is expected to mediate the relationship between product knowledge and customer loyalty.

H7: Customer Satisfaction mediates the relationship between Product Knowledge and Customer Loyalty.

Research Model



3. Research Method

This study employed a quantitative approach with a causal associative research design to examine the direct and indirect effects among Service Quality, Product Knowledge, Customer Satisfaction, and Customer Loyalty. Service Quality and Product Knowledge were treated as independent variables, Customer Loyalty as the dependent variable, and Customer Satisfaction as the mediating variable. The research was conducted on Business to Customer (B2C) customers of PT Rukun Putera Bersama, a medical device distributor located in Mojokerto, East Java, Indonesia.

The population consisted of 125 B2C customers of PT Rukun Putera Bersama in 2025. The sample was determined using the Slovin formula with a 5% margin of error, resulting in 95 respondents. Respondents were selected using non-probability sampling with a purposive sampling technique. The selection criteria included active customers who had made at least three purchases within the previous year, had direct interaction with the company, were located in East Java, and were willing to participate in the study.

Primary data were collected through a structured questionnaire distributed online using Google Forms. The questionnaire measured respondents' perceptions of the four research variables using a Likert scale. Secondary data were obtained from relevant scientific literature and internal company documents. Service Quality was measured through five dimensions: reliability, responsiveness, assurance, empathy, and tangibles. Product Knowledge was measured based on customer's understanding of product attributes, benefits, and solutions. Customer Satisfaction represented customer's evaluation of whether their experiences met their expectations, while Customer Loyalty reflected customer's intention to repurchase, maintain their relationship with the company, and recommend the company to others.

4. Results and Discussion

4.1 Results

Before evaluating the structural model, the measurement model (outer model) was assessed to determine the validity and reliability of the research constructs. The evaluation included convergent validity, discriminant validity, and construct reliability to ensure that the indicators adequately represented Service Quality, Product Knowledge, Customer Satisfaction, and Customer Loyalty. Subsequently, the structural model (inner model) was evaluated to examine the explanatory and predictive power of the proposed research model.

Table 1. Convergent Validity Assessment (Outer Model)

Variable	Item	Loading Factor	AVE	Result
<i>Service Quality</i>	X1.1	0.945	0.897	Valid
	X1.10	0.951		Valid
	X1.2	0.953		Valid
	X1.3	0.939		Valid
	X1.4	0.945		Valid
	X1.5	0.936		Valid
	X1.6	0.946		Valid
	X1.7	0.962		Valid
	X1.8	0.934		Valid

	X1.9	0.961		Valid
<i>Product Knowledge</i>	X2.1	0.936	0.887	Valid
	X2.2	0.957		Valid
	X2.3	0.935		Valid
	X2.4	0.945		Valid
	X2.5	0.931		Valid
	X2.6	0.946		Valid
<i>Customer Satisfaction</i>	M1	0.944	0.900	Valid
	M2	0.955		Valid
	M3	0.958		Valid
	M4	0.953		Valid
	M5	0.938		Valid
	M6	0.944		Valid
<i>Customer Loyalty</i>	Y1	0.937	0.889	Valid
	Y2	0.942		Valid
	Y3	0.939		Valid
	Y4	0.946		Valid
	Y5	0.944		Valid
	Y6	0.948		Valid

Source: Processed by the author (2026).

The convergent validity assessment showed that all retained indicators achieved outer loading values above the recommended threshold of 0.70. These results indicate that the measurement indicators adequately represent their respective latent constructs and satisfy the convergent validity criteria.

Table 2. Fornell Locker

	Customer Loyalty	Customer Satisfaction	Product Knowledge	Service Quality
Customer Loyalty	0.943			
Customer Satisfaction	0.693	0.949		
Product Knowledge	0.480	0.473	0.942	
Service Quality	0.586	0.656	0.267	0.947

Source: Processed by the author (2026).

The Fornell Locker criterion was used to assess discriminant validity by comparing the square root of the Average Variance Extracted (AVE) of each construct with its correlations with other constructs. The results show that the square root of the AVE for each construct was higher than its correlations with other constructs, indicating that all constructs met the discriminant validity criteria.

Table 3. Cross Loading

Item	Customer Loyalty	Customer Satisfaction	Product Knowledge	Service Quality
M1	0.639	0.944	0.485	0.613
M2	0.689	0.955	0.436	0.627
M3	0.650	0.958	0.458	0.614
M4	0.675	0.953	0.456	0.608
M5	0.630	0.938	0.436	0.616
M6	0.662	0.944	0.419	0.653
X1.1	0.578	0.620	0.234	0.945
X1.10	0.538	0.618	0.241	0.951
X1.2	0.580	0.633	0.338	0.953
X1.3	0.594	0.630	0.231	0.939
X1.4	0.510	0.554	0.213	0.945
X1.5	0.596	0.631	0.228	0.936
X1.6	0.547	0.680	0.272	0.946
X1.7	0.542	0.597	0.246	0.962
X1.8	0.521	0.612	0.239	0.934
X1.9	0.530	0.621	0.284	0.961
X2.1	0.391	0.432	0.936	0.244
X2.2	0.447	0.459	0.957	0.278
X2.3	0.469	0.403	0.935	0.190
X2.4	0.485	0.456	0.945	0.268
X2.5	0.407	0.407	0.931	0.207
X2.6	0.499	0.501	0.946	0.310
Y1	0.937	0.676	0.457	0.559
Y2	0.942	0.622	0.391	0.565
Y3	0.939	0.649	0.450	0.555
Y4	0.946	0.643	0.494	0.514
Y5	0.944	0.641	0.479	0.500
Y6	0.948	0.687	0.443	0.616

Source: Processed by the author (2026).

The cross-loading results show that each indicator has a higher loading on its corresponding construct than on other constructs. Therefore, all indicators meet the discriminant validity criteria and adequately represent their respective constructs.

Table 4. Heterotrait Monotrait Ratio

	Customer Loyalty	Customer Satisfaction	Product Knowledge	Service Quality
Customer Loyalty				
Customer Satisfaction	0.709			
Product Knowledge	0.489	0.482		
Service Quality	0.595	0.666	0.269	

Source: Processed by the author (2026).

The HTMT results show that all values range from 0.269 to 0.709, which are below the recommended threshold of 0.90. Therefore, all constructs meet the discriminant validity criteria and are empirically distinct from one another.

Table 5. Reliability Test

Variable	Cronbach's Alpha	Composite Reliability
Customer Loyalty	0.975	0.980
Customer Satisfaction	0.978	0.982
Product Knowledge	0.974	0.979
Service Quality	0.987	0.989

Source: Processed by the author (2026).

The reliability test results show that all constructs have Cronbach's Alpha and Composite Reliability values above the recommended threshold of 0.70. Cronbach's Alpha values range from 0.974 to 0.987, while Composite Reliability values range from 0.979 to 0.989. Therefore, all constructs demonstrate satisfactory internal consistency and reliability.

Table 6. R-Square

	R-square	R-square adjusted
Customer Loyalty	0.545	0.530
Customer Satisfaction	0.525	0.515

Source: Processed by the author (2026).

The R-square results show that Customer Loyalty has an R^2 value of 0.545, indicating that 54.5% of its variance is explained by Service Quality, Product Knowledge, and Customer Satisfaction. Meanwhile, Customer Satisfaction has an R^2 value of 0.525, indicating that 52.5% of its variance is explained by Service Quality and Product Knowledge. The remaining variance is explained by other factors outside the research model.

Table 7. F-Square

	Customer Loyalty	Customer Satisfaction	Product Knowledge	Service Quality
Customer Loyalty				
Customer Satisfaction	0.196			
Product Knowledge	0.075	0.200		
Service Quality	0.075	0.635		

Source: Processed by the author (2026).

The F-square results show that Service Quality has a large effect on Customer Satisfaction ($f^2 = 0.635$), while Product Knowledge ($f^2 = 0.200$) and Customer Satisfaction ($f^2 = 0.196$) have medium effects. Meanwhile, Service Quality and Product Knowledge have small direct effects on Customer Loyalty ($f^2 = 0.075$).

Tabel 8. Q Square

	Q ² predict	RMSE	MAE
Customer Satisfaction	0.504	0.717	0.553
Customer Loyalty	0.427	0.770	0.643

Source: Processed by the author (2026).

The Q Square results show that Customer Satisfaction ($Q^2 = 0.504$) and Customer Loyalty ($Q^2 = 0.427$) have Q^2 values greater than zero, indicating that the model has predictive relevance for both endogenous constructs.

Figure 3. Hypothesis Testing Results

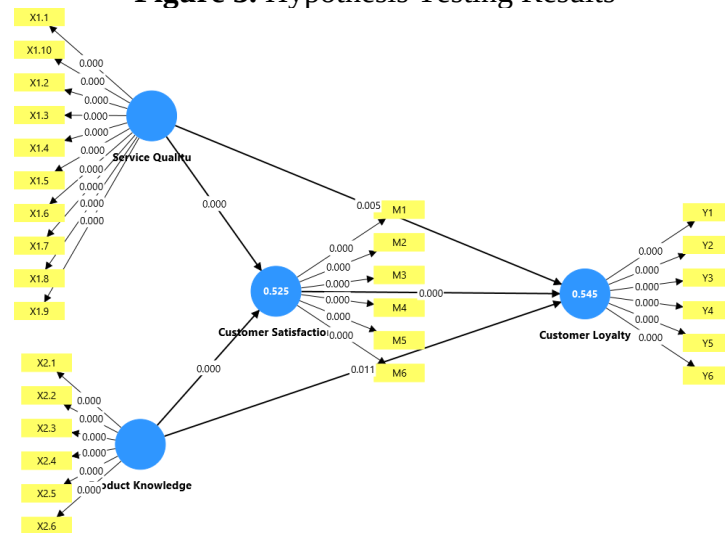


Table 9. Hypothesis Test

	Original sample (O)	T statistics (O/STDEV)	P values	Result
Customer Satisfaction -> Customer Loyalty	0.433	4.324	0.000	Significant
Product Knowledge -> Customer Loyalty	0.209	2.547	0.011	Significant
Product Knowledge -> Customer Satisfaction	0.320	4.232	0.000	Significant
Service Quality -> Customer Loyalty	0.246	2.791	0.005	Significant
Service Quality -> Customer Satisfaction	0.570	8.430	0.000	Significant
Product Knowledge -> Customer Satisfaction -> Customer Loyalty	0.139	2.840	0.005	Significant
Service Quality -> Customer Satisfaction -> Customer Loyalty	0.247	3.563	0.000	Significant

Source: Processed by the author (2026).

The hypothesis testing results show that all direct and indirect effects in the research model are statistically significant, as all t-statistics exceed 1.96 and p-values are below 0.05. Customer Satisfaction has a significant positive effect on Customer Loyalty (0.433), while Product Knowledge significantly affects both Customer Loyalty (0.209) and Customer Satisfaction (0.320). Service Quality also has significant positive effects on Customer Loyalty (0.246) and Customer Satisfaction (0.570), with the strongest direct effect found in the relationship between Service Quality and Customer Satisfaction. Furthermore, the indirect

effects of Product Knowledge (0.139) and Service Quality (0.247) on Customer Loyalty through Customer Satisfaction are also statistically significant. Therefore, all proposed hypotheses (H1–H7) are supported.

Table 10. Model Fit Assessment

	Saturated model	Estimated model
SRMR	0.038	0.038
NFI	0.890	0.890

Source: Processed by the author (2026).

The model fit assessment shows an SRMR value of 0.038 for both the saturated and estimated models, which is below the recommended threshold of 0.08, indicating an acceptable model fit. Furthermore, the NFI value of 0.890 indicates a relatively good fit, as the value approaches 1. Overall, these results suggest that the proposed model demonstrates an adequate fit with the observed data and can be used for further hypothesis testing.

4.2 Discussion

The Effect of Service Quality on Customer Loyalty

The results indicate that Service Quality has a positive and significant effect on Customer Loyalty, with a path coefficient of 0.246. This finding suggests that better service quality increases customers' willingness to maintain their relationship with PT Rukun Putera Bersama. The result is relevant to the respondents' purchasing characteristics, as 60% had made three to five purchases within the previous year. Repeated transactions provide customers with sufficient experience to evaluate the company's reliability, responsiveness, and professionalism. Therefore, consistent and responsive service can strengthen customers' confidence and encourage repeat purchases. This finding is consistent with Ashiq and Hussain (2024) and Abdul et al. (2024), who found that service quality positively influences customer loyalty.

The Effect of Product Knowledge on Customer Loyalty

Product Knowledge has a positive and significant effect on Customer Loyalty, with a path coefficient of 0.209. This indicates that clear information regarding product characteristics, benefits, functions, and usage can strengthen customers' confidence and encourage them to continue purchasing from the company. This finding can also be associated with the respondent profile, in which 56.8% were entrepreneurs who may require adequate product information when making purchasing decisions. The result supports Soliha et al. (2020), who found that greater consumer product knowledge contributes to stronger customer loyalty. Therefore, PT Rukun Putera Bersama should maintain the ability of its sales personnel to provide clear and relevant product information to customers.

The Effect of Service Quality on Customer Satisfaction

Service Quality has a positive and significant effect on Customer Satisfaction, with a path coefficient of 0.570, representing the strongest direct effect in the structural model. This indicates that customers place substantial importance on their actual service experience, including responsiveness, delivery accuracy, ease of communication, and employee professionalism. The finding is also relevant to the respondent profile, which is dominated by customers aged 26–35 years (49.47%), a productive-age group with considerable expectations regarding service convenience and responsiveness. The result is consistent with Abdul et al. (2024) and Kaulu et al. (2025), who found that better service quality leads to

higher customer satisfaction. Thus, maintaining consistent service performance is essential for PT Rukun Putera Bersama in strengthening customer satisfaction.

The Effect of Product Knowledge on Customer Satisfaction

Product Knowledge also has a positive and significant effect on Customer Satisfaction, with a path coefficient of 0.320. Clear information regarding product characteristics, benefits, functions, and usage helps customers select products that match their needs and consequently improves satisfaction. This finding is consistent with Anaztasya et al. (2025) and Soliha et al. (2020), who found a positive relationship between product knowledge and customer satisfaction. However, its effect is lower than that of Service Quality (0.320 vs. 0.570). This difference may be interpreted in the context of the respondents' geographical characteristics. Most respondents were located in Mojokerto (34.7%), Sidoarjo (25.3%), Lamongan (17.9%), and Jombang (16.8%), indicating that customers were largely concentrated within the company's regional market areas. In this context, direct service experiences, responsiveness, and accessibility may be more salient in shaping satisfaction than product information alone. Nevertheless, domicile was not tested as a variable in the structural model; therefore, this explanation should be interpreted as contextual rather than causal.

The Effect of Customer Satisfaction on Customer Loyalty

Customer Satisfaction has a positive and significant effect on Customer Loyalty, with a path coefficient of 0.433. This result indicates that customers who are satisfied with the products and services provided by PT Rukun Putera Bersama are more likely to repurchase, maintain their relationship with the company, and recommend it to others. The relatively strong effect of Customer Satisfaction also highlights the importance of customers' accumulated experiences with the company. Since all respondents had conducted repeated transactions, their satisfaction was formed through actual and recurring interactions rather than a single purchase experience. This finding confirms that satisfaction is an important mechanism for transforming positive customer experiences into long-term loyalty.

The Mediating Role of Customer Satisfaction in the Effect of Service Quality on Customer Loyalty

Customer Satisfaction significantly mediates the relationship between Service Quality and Customer Loyalty, with an indirect effect of 0.247. Since the direct effect of Service Quality on Customer Loyalty also remains significant, Customer Satisfaction acts as a partial mediator. This means that service quality can strengthen loyalty through two mechanisms: directly through customers' positive perceptions of the service and indirectly by first increasing their satisfaction. The finding supports Expectation Confirmation Theory (ECT), in which satisfaction develops when customers' actual experiences meet or exceed their expectations and subsequently influence post-purchase behavior. The result suggests that improvements in service quality should not only focus on retaining customers directly but also on creating service experiences that consistently generate satisfaction. The partial mediation role identified in the final model is also consistent with the theoretical interpretation presented in the study.

The Mediating Role of Customer Satisfaction in the Effect of Product Knowledge on Customer Loyalty

Customer Satisfaction also significantly mediates the effect of Product Knowledge on Customer Loyalty, with an indirect effect of 0.139. As the direct relationship between Product Knowledge and Customer Loyalty remains significant, Customer Satisfaction also functions as a partial mediator in this relationship. This means that adequate product

information can directly strengthen customers' confidence and loyalty while simultaneously increasing satisfaction by helping customers understand and select products that match their needs. This finding is consistent with Soliha et al. (2020), who found that Customer Satisfaction mediates the relationship between consumer product knowledge and Customer Loyalty, and is also supported by Anaztasya et al. (2025) regarding the positive effect of Product Knowledge on Customer Satisfaction.

Overall Findings and Managerial Implications

Overall, the findings reveal that Service Quality is the most important strategic priority for PT Rukun Putera Bersama. Although both Service Quality and Product Knowledge significantly influence Customer Satisfaction and Customer Loyalty, Service Quality shows the strongest effect on Customer Satisfaction ($\beta = 0.570$), compared with Product Knowledge ($\beta = 0.320$). Moreover, the effect-size analysis also shows that Service Quality has the largest contribution to Customer Satisfaction. Therefore, if the company must prioritize one strategy, improvements in service reliability, responsiveness, delivery accuracy, communication, and employee professionalism should receive greater attention. Product Knowledge remains important but should function as a complementary strategy through continuous improvement of sales personnel's ability to explain product specifications, benefits, functions, and usage. This combination can strengthen customer satisfaction and ultimately support long-term loyalty. This priority is also consistent with the conclusion of the final thesis revision, which identifies Service Quality as the dominant strategy for improving satisfaction and loyalty.

5. Conclusion

This study concludes that Service Quality and Product Knowledge play important roles in strengthening Customer Loyalty at PT Rukun Putera Bersama, both directly and indirectly through Customer Satisfaction. Service Quality and Product Knowledge have positive and significant effects on Customer Satisfaction and Customer Loyalty, while Customer Satisfaction also has a positive and significant effect on Customer Loyalty. Furthermore, Customer Satisfaction partially mediates the effects of both Service Quality and Product Knowledge on Customer Loyalty. These findings indicate that customer loyalty is not formed solely through customers' direct perceptions of service and product information, but also through the satisfaction generated from their overall purchasing experience.

The novelty of this study lies in demonstrating the simultaneous roles of Service Quality and Product Knowledge in building Customer Loyalty through Customer Satisfaction within the medical device distribution context, particularly among B2C customers. A key finding is that Service Quality has a stronger contribution to Customer Satisfaction than Product Knowledge, making service quality the primary strategic factor in strengthening customer relationships. At the same time, the partial mediating role of Customer Satisfaction indicates that Service Quality and Product Knowledge can build loyalty through both direct and satisfaction-based mechanisms. Therefore, the findings provide a more comprehensive explanation of how customer loyalty can be developed in the medical device distribution business.

Based on these findings, PT Rukun Putera Bersama should prioritize improvements in Service Quality by strengthening responsiveness, communication, delivery accuracy, and service reliability. Product Knowledge should also be continuously improved through regular product training for sales and customer service personnel to ensure that customers receive clear information regarding product characteristics, functions, benefits, and usage. Future studies are recommended to examine additional determinants of Customer Loyalty, such as

Customer Trust, Perceived Value, Relationship Marketing, Corporate Image, and Price, while involving larger samples, broader geographical coverage, and other medical device distributors to improve the generalizability of the findings. These recommendations are consistent with the practical and future-research suggestions in your thesis.

References

- Kementerian Kesehatan Republik Indonesia. (2023.). *E-Info Alkes PKRT*. Diakses dari <https://infoalkes.kemkes.go.id/> infoalkes.kemkes.go.id
- Abdul, H., Anhar, M., & Fahrudin, R. (2024). *Advances in Business & Industrial Marketing Research Service Quality on Customer Loyalty: Mediation of Customer Satisfaction*. 2(3), 150–163.
- Abumalloh, R. A., Nilashi, M., Halabi, O., & Ali, R. (2024). Journal of Innovation behavioural theory. *Journal of Innovation & Knowledge*, 9(4), 100569. <https://doi.org/10.1016/j.jik.2024.100569>
- Adelia, L., & Purnama, E. D. (2025). *The Impact of Service Quality and Accessibility on Customer Loyalty: The Mediating role of Customer Satisfaction*. 6(6), 3676–3689.
- Afif, M. (2019). Pengaruh Motivasi dan Lingkungan Kerja Terhadap Kinerja Karyawan Bagian Packing Produk Minuman PT . Singa Mas Pandaan. *Jurnal Aplikasi Manajemen Dan Inovasi Bisnis*, 1, 103–125.
- Aini, Z. (2018). *Pengaruh Service Quality Dan Customer Trust Terhadap Customer Satisfaction Serta Dampaknya Pada Customer Loyalty Perbankan Syariah*. 6(2), 149–159.
- Albar, I., & Permatasari, B. (2024). *Kepuasan Pelanggan dan Kepercayaan Pelanggan Terhadap Loyalitas Pelanggan Dalam Berbelanja Melalui E-Commerce Di Lampung*. 14(2), 115–129.
- Amanda, L., Yanuar, F., & Devianto, D. (2019). PARTISIPASI POLITIK MASYARAKAT KOTA PADANG. In *Jurnal Matematika UNAND: VIII* (Number 1).
- Anaztasya A.P et al. (2025). Pengaruh Online Grocery Delivery Service, Product Quality, dan Product Knowledge Terhadap Customer Satisfaction pada Aplikasi Alfagift. *Jurnal Ekonomi Bisnis Dan Kewirausahaan*, 2(4), 70–82.
- Aritonang, A. N., & Nasution, P. K. (2023). Covariance Based Structural Equation Modeling Dalam Analisis Hubungan Penyesuaian Diri Terhadap Culture Shock Mahasiswa Pasca Pandemi Covid-19. *Jurnal Matematika*, 3, 40–56.
- Ashiq, R., & Hussain, A. (2024a). Exploring the effects of e-service quality and e-trust on consumers' e-satisfaction and e-loyalty: insights from online shoppers in Pakistan. *Journal of Electronic Business & Digital Economics*, 3(2), 117–141. <https://doi.org/10.1108/jebde-09-2023-0019>
- Ashiq, R., & Hussain, A. (2024b). Exploring the effects of e-service quality and e-trust on consumers' e-satisfaction and e-loyalty: insights from online shoppers in Pakistan. *Journal of Electronic Business & Digital Economics*, 3(2), 117–141. <https://doi.org/10.1108/JEBDE-09-2023-0019>
- Avril Angesti Arya Putri, & Kristiningsih. (2024). the Service Quality and Customer Value Impact on Loyalty: Mediating Roles of Trust and Satisfaction (Study At Ikan Bakar Cianjur Surabaya Restaurant). *Jurnal Bisnis Terapan*, 8(2), 115–123. <https://doi.org/10.24123/jbt.v8i2.6503>
- Cartwright, S., Davies, I., & Archer-brown, C. (2021a). Managing relationships on social

- media in business-to-business organisations. *Journal of Business Research*, 125(November 2020), 120–134. <https://doi.org/10.1016/j.jbusres.2020.11.028>
- Cholifah, P. N., & Puruwita, D. (2025). *Pengaruh Trust , Service Quality , dan Customer Satisfaction Dalam Membangun Customer Loyalty pada Pengguna Shopee di Jakarta*. 2(4), 540–556.
- Danarkusuma, A. A., Harianto, E., & Sutanto, J. E. (2024). The Impact of Price, Service Quality and Trust On Customer Loyalty Through Customer Satisfaction In Automotive. *International Journal of Economics, Business and Accounting Research (IJEBAR)*, 8(2), 290–306.
- Desyanata & Rivai, A. (2024). The Influence of Consumer Product Knowledge , Trust and Risk Perception on Purchase Intention of Shopee Consumers. *Jurnal Ekonomi*, 13(01), 2298–2310. <https://doi.org/10.54209/ekonomi.v13i01>
- Dewi, I., Michel, R., & Puspitarini, D. (2022). Pengaruh Kualitas Produk Terhadap Loyalitas Dengan Mediasi Kepuasan Pelanggan Pada Toko Prima Freshmart Cirebon. *Jurnal Maneksi*, 11(1), 314–321.
- Efendi, N., & Lubis, T. W. . (2022). Analisis pengaruh citra merek, promosi, kualitas pelayanan terhadap kepuasan konsumen ritel 1,2. *Jurnal Wira Ekonomi Mikroskil*, 12(April), 21–36.
- Fatimah, S., Idrus, M., Mukhtar, A., & Salam, K. N. (2022). Study On Service Quality On Customer Satisfaction And Loyalty. *Jurnal Manajemen*, XXVI(03), 512–532.
- Fauzi, F., & Kurniawan, R. (2021). *Effect of Service Quality and Product Knowledge on Customer Loyalty through Customer Satisfaction at Bank BTPN Makassar Branch*. 7294–7301.
- Feng, C., & Fay, S. (2021). Journal of Retailing and Consumer Services Chief stores officer and retailer performance. *Journal of Retailing and Consumer Services*, 58(November 2020), 102321. <https://doi.org/10.1016/j.jretconser.2020.102321>
- Ghozali, & Latan. (2015). *Konsep, Teknik, Aplikasi Menggunakan Smart PLS 3.0 Untuk Penelitian Empiris*.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*.
- Harahap, K. L. (2016). Analisis SEM (Structural Equation Modelling) Dengan SMARTPLS (Partial Least Square) Oleh : *Fakultas Sains Dan Teknologi UIN Walisongo Semarang*, 1(1).
- Hui, G., Al, A., Nurul, M., Reza, H., & Mohd, W. (2025). An empirical study on logistic service quality , customer satisfaction , and cross-border repurchase intention. *Heliyon*, 11(March 2024).
- Isnati, Aqsa, M., Rismawati, Pribadi, I., & Duriani. (2024). The Effect of Service Quality on Customer Loyalty Through Customer Satisfaction. *International Journal of Entrepreneurship and Management Practices*, 7(27), 134–148. <https://doi.org/10.35631/IJEMP.727011>
- Juniarta, I. K. P., Putu, N., & Eka, N. (2025). *Peran Kepuasan Pelanggan sebagai Mediasi Pengaruh Kualitas Pelayanan terhadap Loyalitas Pelanggan banyak pelanggan dan membangun hubungan jangka panjang* . (November).
- Kaulu, B., Nakalinda, A., Zya, E., & Phiri, H. (2025). Customer satisfaction as mediator in the relationship between higher education service quality and student customer loyalty. *European Journal of Management Studies*, 30(3), 2635–2648. <https://doi.org/10.1108/EJMS-05-2024-0045>

- Kurniati, K., Basalamah, R., & Asiyah, S. (2023). The Influence of Service Quality On Customer Loyalty and Satisfaction as an Intervening Variable in using Bus Transportation Services. *Jurnal Nusantara Aplikasi Manajemen Bisnis*, 8(2), 487–497. <https://doi.org/10.29407/nusamba.v8i2.19774>
- Lesmana, R., Sutarman, A., & Sunardi, N. (2021). *Open Access Building A Customer Loyalty Through Service Quality Mediated by Customer Satisfaction*. (3), 38–45.
- Massie, J. D. D., Sondakh, G. C., Massie, J. D. D., & Tielung, M. V. J. (2023). The Influence of Electronic Word of Mouth, Price and Product Knowledge on Customer Loyalty. *Jurnal EMBA*, 11(4), 379–390.
- Mofokeng, T. E. (2025). Telematics and Informatics Reports Mechanisms of building customer loyalty : Mediation of customer satisfaction with online retailing in South Africa. *Telematics and Informatics Reports*, 20(January), 100262. <https://doi.org/10.1016/j.teler.2025.100262>
- Mulfa, D. L., & Tuti, M. (2025). *The Influence of Customer Recommendation , Rating , and Experience on Mosslife Coffee : Can Satisfied Customers Become Loyal ?* 24(2), 240–252.
- Naini, N. F., Santoso, S., Andriani, T. S., & Claudia, U. (2022). The Effect of Product Quality , Service Quality , Customer Satisfaction on Customer Loyalty. *Journal of Consumer Sciences*, 7, 34–50.
- Osei-frimpong, K., Mclean, G., Wilson, A., & Lemke, F. (2020). Customer coproduction in healthcare service delivery : Examining the influencing effects of the social context. *Journal of Business Research*, 120(May 2018), 82–93. <https://doi.org/10.1016/j.jbusres.2020.07.037>
- Purwanto, A., & Sudargini, Y. (2021). Partial Least Squares Structural Squation Modeling (PLS-SEM) Analysis for Social and Management Research : A Literature Review Journal of Industrial Engineering & Management Research. *Journal of Industrial Engineering & Management Research*, 2(4), 114–123.
- Santoso, Y. T., Rachmawati, I. K., & Handoko, Y. (2025). The Effect of Service Quality on Loyalty, Through Customer Satisfaction At Region Development Bank Of Papua LLC Branch Agats. *Journal of Management*, 18(1), 599–612.
- Sayyida. (2023). Structural Equation Modeling (SEM) dengan SmartPLS Dalam Menyelesaikan Permasalahan di Bidang Ekonomi. *Journal Management and Business Strategy*, 4.
- Soliha, E., Marlien, R. A., Widayarsi, S., Rivai, A. R., & Khotimah, N. (2020). *Image , Consumer Product Knowledge , Satisfaction , and Loyalty : Testing Their Relationships in the Rural Bank Sector*. 5(5), 92–100.
- Supriyanto, A., Erstiawan, M. S., Soebijono, T., & Angesti, D. (2025). *Kualitas Layanan dan Loyalitas Pelanggan : Peran Mediasi Kepuasan Pelanggan pada Cafe Service Quality and Customer Loyalty : The Mediating Role of Customer Satisfaction in Cafe ' s*. 07(1), 29–42.
- Supriyanto, A., Wiyono, B. B., & Burhanuddin, B. (2021). Effects of service quality and customer satisfaction on loyalty of bank customers Effects of service quality and customer satisfaction on loyalty of bank customers. *Cogent Business & Management*, 8(1). <https://doi.org/10.1080/23311975.2021.1937847>
- Utami, B., Hidayat, M. S., & Setyariningsih, E. (2023). The Relationship Between Customer Satisfaction and Loyalty : A Systematic Literature Review. *International Journal of Social Service and Research*, 03(01), 54–62.

- Utomo, P., Budiman, A., & Amadi, D. N. (2023). Optimasi Metode Simple Additive Weighting Menggunakan Skala Likert dalam Aplikasi Pemilihan Peserta Rapat Bersih Dusun. *Journal of Computer and Information Systems Ampera*, 4(3), 141–156.
- Winata, Y., & Sumaji, Y. M. . (2023). Pengaruh Product Knowledge, Brand Image, Product Packaging Terhadap Purchase Intention Konsumen Somethinc. *Jurnal Bisnis Terapan*.