



Influence *service quality* against *customer loyalty* : mediation role *customer engagement*

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ARTICLE EI NFO	ABSTRACT
<p><i>Article history:</i> Received July 26, 2025 Revised Aug 10, 2025 Accepted Sep 20, 2025</p> <p><i>Keywords:</i> Customer Engagement; Customer Loyalty; PLS-SEM; Quantitative research; Service quality.</p>	<p>This study seeks to explore how service quality influences customer loyalty, with customer engagement positioned as a mediating variable. Adopting a quantitative research design, data were obtained from a survey of 105 respondents and analyzed using SmartPLS 3 with the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique. The findings reveal that service quality exerts a significant positive impact on both customer engagement ($\beta = 0.527$; $p < 0.001$) and customer loyalty ($\beta = 0.348$; $p < 0.01$). Additionally, customer engagement is shown to strongly predict customer loyalty ($\beta = 0.509$; $p < 0.001$) and serves as a pivotal mediator in the link between service quality and loyalty ($\beta = 0.268$; $p < 0.001$). These results suggest that, aside from improving the technical dimensions of service delivery, companies should prioritize cultivating meaningful interactions with customers to strengthen engagement, nurture emotional bonds, and secure sustainable loyalty. The findings show that service quality brings greater impact when combined with customer engagement strategies like personalization, open communication, and community-building. Managers can apply this to boost satisfaction while building loyalty that withstands competitors. This reinforces the novelty of treating engagement as the key link between service quality and long-term business success.</p>

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1. INTRODUCTION

In today's increasingly competitive digital landscape, businesses-including Micro, Small, and Medium Enterprises (MSMEs)-are driven to adopt strategies that enhance customer retention by improving service quality and building emotional connections with their brand. Pamansam Pastry, an MSME based in Kebumen, Indonesia, is one such business

navigating these challenges. Despite facing numerous competitors in the same industry, the company has demonstrated a promising pattern of repeat purchases, reflecting signs of customer loyalty. Nevertheless, a gap still exists, as some customers only make a single purchase, highlighting the need for more targeted strategies to effectively cultivate and sustain customer loyalty.

Customer loyalty is a crucial element of a business's competitive advantage. Even in the presence of external factors that may influence switching behavior, loyal customers demonstrate a consistent preference and repurchase intention toward a particular brand (Kotler et al., 2022). Loyalty is shaped by satisfying customer experiences and the strength of the relationship between consumers and brands (Griffin, 2005; Hurriyati, 2015). More recent studies also confirm that loyalty significantly contributes to long-term sustainability, particularly within MSMEs where competitive differentiation is limited (Amalia & Shafira, 2025; Saad et al., 2022).

One of the primary antecedents of customer loyalty is service quality. According to studies by (Çerri, 2012) and Gursoy et al., (2014), improving service quality plays a vital role in elevating customer satisfaction and maintaining long-term loyalty. Service quality can be defined as the consistency with which a product or service meets or exceeds customer expectations (Kotler & Keller, 2006). In the MSME context, service quality not only covers the point-of-sale interaction but also post-sale services, such as Pamansam Pastry's product warranty policy. Complementing these earlier findings, recent empirical evidence indicates that dimensions of service quality—such as responsiveness, reliability, and assurance—remain decisive factors influencing both attitudinal and behavioral loyalty (Saad et al., 2022; Sustainability, 2023).

However, previous research findings have not been entirely consistent. For instance, (Fernandes, 2018) and (Ibrahim et al., 2023) found that service quality does not always have a direct impact on customer loyalty. This suggests the potential role of a mediating variable in this relationship. Supporting this, studies in digital service environments demonstrate that customer satisfaction and customer engagement often act as mediators between service quality and loyalty, strengthening the indirect relationship (Lesmini et al., 2024; Novyantri & Setiawardani, 2021). These inconsistencies indicate that the direct link between service quality and loyalty remains inconclusive and context-dependent, particularly within MSMEs operating in traditional and highly competitive local markets. This highlights the need for further exploration of mediating mechanisms such as engagement in order to clarify when and how service quality translates into loyalty.

An important mediating variable is Customer Engagement. Customer engagement reflects the emotional and cognitive connection between a customer and a brand (Bansal & Chaudhary, 2016; So et al., 2014). Highly engaged customers tend to display positive attitudes toward the brand, which directly influences their loyalty (Kosiba et al., 2018). Engagement enhances the customer-brand relationship through enthusiasm, interaction, identification, and absorption in the brand experience (So et al., 2012). In line with this, recent findings reveal that engagement not only strengthens satisfaction but also fosters resilience in loyalty even under competitive market pressure (Gremler et al., 2022; Lesmini et al., 2024).

This research therefore seeks to analyze how service quality influences customer loyalty, with customer engagement as an intervening factor. The study seeks to deepen the understanding of how customer engagement enhances the effect of service quality on loyalty, especially in the context of local culinary MSMEs. The results are intended to serve as a strategic foundation for fostering long-term customer loyalty through a service approach that emphasizes emotional connection and meaningful experiences.

Theoretically, this study contributes by bridging contradictory findings on the service quality-loyalty relationship and extending engagement theory into the MSME context. Practically, it offers managers of small businesses like Pamansam Pastry actionable insights on how engagement-driven strategies can transform one-time buyers

into repeat customers, ensuring competitive survival in local markets such as Kebumen. This novelty lies not only in addressing the research gap but also in situating the analysis within the unique dynamics of a regional MSME, thereby strengthening the contextual relevance of the findings.

2. RESEARCH METHOD

The study applies a data-driven design to explore causal relationships among the identified constructs. The sample consists of 105 repeat customers of Pamansam Pastry, selected for their familiarity with the brand and purchasing history. A purposive sampling technique was employed to ensure that only respondents with actual purchase experience and brand familiarity were included, thereby strengthening the relevance of the data to the research objectives. The respondents varied in demographic characteristics, with the majority ranging between 18–40 years old, consisting of both male and female customers, and representing diverse purchasing frequencies—from occasional buyers to regular weekly customers. These variations helped capture a more representative picture of loyalty patterns across different consumer segments. Data were gathered through structured questionnaires, containing closed-ended items that assessed perceptions of service quality, customer engagement, and loyalty.

Data analysis was carried out using the PLS-SEM method, with SmartPLS 3 serving as the primary modeling software. This analytical method was chosen due to its capacity to handle complex models and relatively small sample sizes—traits often essential in research involving MSMEs (Hair & Alamer, 2022; Russo & Stol, 2021). The PLS-SEM algorithm’s iterative nature—alternating between measurement and structural model optimization—facilitates obtaining reliable solutions even with modest samples, particularly when non-normal data distributions or formative constructs are involved (Hair & Alamer, 2022). However, scholars caution against overreliance on small sample claims; while PLS-SEM can technically converge with limited data, it does not guarantee adequate statistical power or representativeness unless sample size aligns with model complexity and desired effect sizes (Hair et al., 2021; Russo & Stol, 2021).

Empirical evidence from model simulation studies supports that PLS-SEM maintains statistical power above 80%, even with smaller samples (e.g., $n = 100$) and medium effect sizes, albeit assuming well-specified measurement models (Sarstedt et al., 2020). Nonetheless, researchers are urged to avoid simplistic “ten-times-rule” heuristics and instead base sample size decisions on power analyses, as very small samples may lead to inflated estimates or Type II errors (Jhantasana, 2023; Kock & Hadaya, 2018).

Table 1. Source and Number of Items in the Instrument

Variables	Amount Statement	Source
<i>Service Quality</i>	5	(Zeithaml et al., 1990)
<i>Customer Engagement</i>	5	(So et al., 2012)
<i>Customer Loyalty</i>	3	(Griffin, 2005; Hurriyati, 2015)

The analysis was carried out in two consecutive stages using multiple regression. First, the measurement model was evaluated to ensure its reliability and validity. Convergent validity was tested through Average Variance Extracted (AVE), while reliability was assessed using Cronbach’s Alpha and Composite Reliability (CR), all of which met the recommended thresholds ($AVE \geq 0.50$; Cronbach’s Alpha ≥ 0.70 ; $CR \geq 0.70$). Discriminant validity was confirmed using the Fornell-Larcker criterion and HTMT ratios, ensuring that each construct was distinct from the others. Subsequently, the structural model was examined to confirm the hypothesized relationships among the constructs. All hypotheses were tested at a significance threshold of $p \leq 0.05$.

3. RESULTS AND DISCUSSIONS

Figure 1 presents the structural model analysis using PLS-SEM, which details the standardized path estimates (β), levels of significance (p-values), and explanatory power (R^2) of each construct.

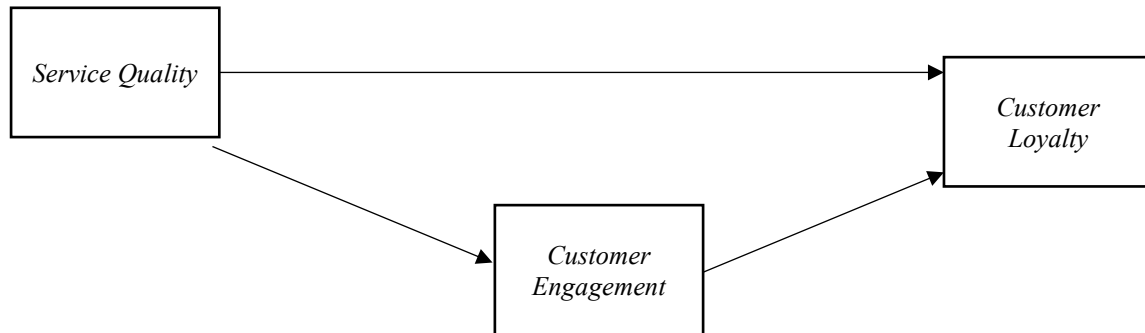


Figure 1. Measurement Model Evaluation

A measurement instrument is considered valid when the significance value of the correlation between each item and the total score is $\leq \alpha$ (Suliyanto, 2018). In other words, if the p-value of the item-total correlation is ≤ 0.05 , the item is regarded as valid. Besides validity, the instrument must also meet the reliability requirement, which indicates the consistency or stability of respondents' answers over time. Reliability is achieved when Cronbach's Alpha is above the 0.60 (60%) threshold, reflecting strong internal consistency among the observed indicators.

As shown in Table 2, all indicators within each construct have loading factor values above 0.70 and Cronbach's Alpha values exceeding 0.60. This confirms that all the measurement items used in this study are both valid and reliable. Therefore, the research instrument meets the standards of a trustworthy and consistent measurement tool.

Table 2. Validity and Reliability of Instruments

Construct	Indicator	Loading Factor	Cronbach Alpha
Service Quality	SQ1	0.826	0.913
	SQ2	0.885	
	SQ3	0.864	
	SQ4	0.805	
	SQ5	0.813	
Customer Engagement	CE1	0.854	0.921
	CE2	0.882	
	CE3	0.887	
	CE4	0.884	
	CE5	0.877	
Customer Loyalty	CL1	0.917	0.882
	CL2	0.924	
	CL3	0.927	

Table 2 shows that all constructs exhibit high internal consistency, as evidenced by significant item-total correlations ($p < 0.05$) and Cronbach's Alpha values exceeding 0.60, thereby confirming their reliability. This confirms that the indicators used in this research are both valid and demonstrate acceptable levels of reliability.

Effect Testing

The validation of both direct and indirect hypothesis relationships in this study was conducted using multiple regression analysis. The analysis results are presented in Tables 3 and 4, which illustrate the significant effects observed within the path model. These tables also display statistical indicators such as the mean, standard deviation, and p-values for each tested variable, providing a comprehensive overview of the strength and significance of the relationships between constructs.

Table 3. Direct Effect

Constructs	Mean	STDEV	T-Stat	P Values
Customer Engagement -> Customer Loyalty	0,510	0,094	5,396	0,000
Service Quality -> Customer Engagement	0,527	0,077	6,888	0,000
Service Quality -> Customer Loyalty	0,345	0,101	3,447	0,001

Table 4. Indirect Effect

	Mean	STDEV	T-Stat	P Values
Service Quality -> Customer Engagement -> Customer Loyalty	0,269	0,064	4,211	0,000

The path analysis results indicate that Customer Engagement exerts a significant positive influence on Customer Loyalty, with a coefficient of 0.509 and a t-statistic of 5.396. The p-value ($0.000 < 0.05$) confirms the statistical significance of this relationship, implying that increased engagement corresponds with stronger customer loyalty toward the brand.

Furthermore, Service Quality is also proven to have a positive and significant influence on Customer Engagement, with a path coefficient of 0.527 and a *t-statistic* of 6.888. The *p-value* of 0.000 confirms a strong statistical relationship between service quality and customer engagement. This result indicates that improving service quality encourages more active and sustained engagement between customers and the brand.

In addition to its effect on customer engagement, Service Quality also has a direct positive effect on Customer Loyalty, with a coefficient of 0.348, a *t-statistic* of 3.447, and a *p-value* of 0.001. Although this coefficient is lower than its effect on customer engagement, the result still shows that high service quality can directly enhance customer loyalty.

The mediation analysis further demonstrates that Service Quality indirectly influences Customer Loyalty through Customer Engagement, as indicated by a coefficient of 0.268, a t-statistic of 4.211, and a p-value of 0.000. These results confirm the mediating role of customer engagement in this relationship, highlighting its function in enhancing the impact of service quality on loyalty.

Overall, these findings reinforce the role of Customer Engagement as a critical element in the mechanism of loyalty formation, especially in the context of service-based businesses. Superior service quality not only creates positive customer experiences but also fosters active engagement, which ultimately leads to stronger loyalty. Therefore, strategies aimed at increasing customer loyalty should focus not only on improving service performance but also on cultivating deeper and more sustained customer engagement.

The findings align with prior studies that stress service quality's direct role (Çerri, 2012; Saad et al., 2022) and support research highlighting engagement as a mediator (Kosiba et al., 2018; Lesmini et al., 2024). This shows that loyalty stems not only from satisfaction but also from emotional and cognitive bonds built through engagement. For MSMEs like Pamansam Pastry, this means competitiveness can grow by offering personalized, interactive, and community-based experiences. However, the study's small sample (n = 105) and focus on one MSME in Kebumen limit generalizability. Future studies should use larger, more diverse samples, longitudinal methods, and cross-MSME comparisons to strengthen insights.

4. CONCLUSION

This study examined the impact of service quality on customer loyalty at Pamansam Pastry, a local MSME, with customer engagement serving as a mediating variable. Using PLS-SEM analysis, the results showed that service quality significantly and positively influences both customer engagement and loyalty, while engagement itself plays a key mediating role in strengthening the relationship between the two. These findings emphasize that service quality not only directly enhances loyalty but also fosters it indirectly by encouraging deeper customer involvement. Consequently, efforts to improve service quality should extend beyond functional performance to include interactive and emotional experiences that build stronger connections between customers and the brand. In practical terms, these findings provide valuable insights for MSMEs in developing effective service strategies that focus not only on functional quality but also on creating engaging customer experiences. Theoretically, this research contributes to the growing body of literature on customer loyalty by highlighting the mediating role of customer engagement in the MSME context. However, this study is limited by its focus on a single case and a relatively small sample size, which may restrict the generalizability of the results. Future research could expand the scope by including diverse MSME sectors, employing longitudinal approaches, or integrating additional variables to provide a more comprehensive understanding of the factors that shape customer loyalty.

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