



Service Quality and Customer Satisfaction in Last Mile Logistics: Evidence from a Courier and Parcel Delivery Firm

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ARTICLE INFO	ABSTRACT
Keywords: service quality; customer satisfaction Received: 11 Apr 2025 Accepted: 16 Jun 2025 Published: 30 Jun 2025	<p>This study investigates whether the SERVQUAL dimensions—tangibles, reliability, responsiveness, assurance, and empathy—predict customer satisfaction in a courier and parcel-delivery (last-mile logistics) company. A cross-sectional survey of 100 customers selected via purposive sampling was administered using multi-item Likert scales. Data were analyzed with multiple regression to estimate the marginal contribution of each dimension and to assess the joint (simultaneous) effect on satisfaction. The findings show that all five dimensions are positively and significantly associated with customer satisfaction, and the model confirms a significant joint influence. Responsiveness and empathy emerge as the strongest predictors, whereas assurance exhibits the weakest effect, indicating room for improvement in perceived security, reliability of commitments, and service guarantees. Managerially, the company should sustain strengths related to empathy, tangibles, and responsiveness (e.g., attentive staff, clear physical cues of service quality, swift handling of requests) while prioritizing initiatives that bolster assurance—such as transparent service policies, consistent delivery promises, and credibility signals. The study adds firm-level evidence from the last-mile logistics sector, reinforcing the relevance of SERVQUAL for explaining satisfaction in time-sensitive, technology-enabled delivery contexts.</p>

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1. INTRODUCTION

In today's rapidly evolving environment, the demand for goods delivery services has increased significantly, driven by the convenience such services offer to both individuals and businesses. Makassar, one of Indonesia's major urban centers, has experienced substantial growth in the use of delivery services, resulting in heightened market competition. Within this competitive landscape, service quality has emerged as a key differentiator that not only distinguishes one provider from another but also plays a central role in shaping customer satisfaction.

The rapid expansion of business activities has intensified competition among companies (Atlin et al., 2017; Deng et al., 2018; Wen et al., 2022), compelling firms to continuously enhance their ability to meet customer needs and expectations. In this fast-paced era, customers demand greater attention, particularly regarding the quality of services they receive. As satisfying customers remains a fundamental objective for all service-oriented companies, service quality becomes an essential element in achieving customer satisfaction. According to Lu et al. (2015) and Miranda et al. (2018), service quality can be measured by comparing customers' perceptions of the services they receive with the services they expect, based on specific service attributes offered by the company.

Competition within the service sector, particularly in package delivery or expedition services has become increasingly intense. Companies operating in this industry must be able to deliver high-quality



and reliable services in order to develop their business and gain a sustainable competitive advantage. When service quality is consistently maintained, customers are more likely to form positive perceptions, leading them to choose and remain loyal to a particular delivery service provider, thereby creating a favorable impact on the company. In Indonesia, expedition service providers continue to expand through various competitive strategies aimed at attracting customers (Alamsyah et al., 2019; Kartawinata et al., 2021). Some companies offer nationwide delivery coverage, while others specialize in selected regions depending on their operational focus.

Although the relationship between service quality and customer satisfaction has been widely examined in various industries (Kasiri et al., 2017; Afifah et al., 2024; Isma et al., 2025), research within the specific context of goods delivery services remains limited—particularly in Makassar City. As emphasized by Rita et al. (2019), understanding how service quality influences customer satisfaction in this local setting is crucial for delivery service providers and policymakers who aim to enhance customer experience and improve service efficiency. Given the city's growing reliance on delivery services, insights from such research can contribute significantly to the development of more effective service improvement strategies.

Service quality is generally understood as a multidimensional construct that consists of several key dimensions, including reliability, responsiveness, assurance, empathy, and tangibles (Iddrisu et al., 2015; Pakurár et al., 2019; Al-Damen, 2017). Reliability reflects the ability of a delivery service provider to fulfill its promises, particularly in ensuring that goods arrive on schedule and in the expected condition. Responsiveness refers to the provider's willingness and ability to promptly address customer inquiries, complaints, or service-related concerns. Assurance encompasses the competence, courtesy, and credibility demonstrated by service personnel, which fosters customer trust. Empathy represents the provider's capacity to understand and respond to customers' individual needs. Meanwhile, tangibles involve the physical elements of service delivery, such as the appearance of couriers, the condition of delivery vehicles, and other observable aspects of the service environment.

Customer satisfaction, in contrast, reflects a customer's overall assessment of their experience with a goods delivery service (Engler et al., 2015). This evaluation is shaped by various factors, including perceived value, perceived service quality, and the emotional response following service consumption. The degree of satisfaction is strongly influenced by how well service performance aligns with or exceeds the customer's expectations—making service quality a central determinant of satisfaction within the delivery service industry.

This study aims to examine the influence of service quality on customer satisfaction among users of goods delivery services in Makassar City. By analyzing customer perceptions and actual experiences, the research seeks to identify which dimensions of service quality have the most substantial effect on customer satisfaction within this regional context. In addition, the study enriches existing literature by offering practical insights and recommendations that delivery service providers can apply to improve service quality and strengthen customer satisfaction (Ali & Raza, 2017).

To address these objectives, the study adopts a quantitative research approach. Data will be gathered through structured questionnaires distributed to customers who have recently used goods delivery services in Makassar City. The collected data will then be analyzed using statistical techniques, including regression analysis, to determine the strength and significance of the relationship between various service quality dimensions and customer satisfaction.

The results of this research are expected to provide valuable contributions for delivery service providers, policymakers, and scholars by deepening their understanding of how service quality shapes customer satisfaction in the goods delivery sector. By identifying the specific service quality attributes that exert the strongest influence, companies can design targeted improvement strategies that enhance

service performance, build stronger customer loyalty, and achieve competitive advantages in an increasingly dynamic and expanding industry.

2. METHOD

This research variable consists of two variables, namely the independent variable (independent variable) and the dependent variable (dependent variable). The first design of this research is planning which contains how to choose the problem to be studied and read books or all references related to the problem raised, namely the problem of service quality on customer satisfaction for users of goods delivery services in Makassar City. Second, conducting a preliminary study conducted by reviewing the research location. Furthermore, determining the formulation of the problem, then collecting data and analyzing.

The population in this study were all regular customers of goods delivery service users in Makassar City for the 2018-2022 period, totaling 8544 people. The sampling technique to determine the sample to be used in this study used non-probability sampling techniques, namely purposive sampling. This study uses the Slovin formula because in the withdrawal of samples, the number must be representative so that the research results can be generalized, and the calculations do not require a sample size table but can be done with simple formulas and calculations.

The Slovin formula for determining the sample is as follows:

$$\text{Slovin's formula } n = \frac{N}{1+N(e)^2}$$

Description:

n = Sample size/number of respondents

N = Population size

E = The percentage of allowance for the accuracy of sampling errors that can still be tolerated:

$e = 0.1$ In the Slovin formula there are the following provisions:

The value of $e = 0.1$ (10%) for large populations

The value of $e = 0.2$ (20%) for populations in small numbers

So the sample range that can be taken from the Solvin technique is between 10-20% of the research population.

$$\begin{aligned}\text{Slovin's formula } n &= \frac{N}{1+N(e)^2} \\ n &= \frac{8544}{1+8544(10\%)^2} \\ n &= \frac{8544}{86,44} \\ n &= 98,8\end{aligned}$$

Based on this formula, the minimum sample result to be taken is 98.8 which is then rounded up to 99 respondents. However, researchers used 100 respondents to complete the sample and avoid damage or loss.

3. RESULTS AND DISCUSSION

3.1 Results

Analysis of Multiple Linear Regression

Multiple linear regression analysis was used in this study with the aim of proving the hypothesis regarding the effect of service quality dimensions variables (tangible, reliability, responsiveness, assurance, and empathy) partially or individually or simultaneously or together on customer satisfaction variables at Goods delivery services in Makassar City. Statistical calculations in multiple linear regression analysis used in this study are with the help of a computer program using the SPSS 21 application. The results of data processing using the complete SPSS program are contained in the appendix to this study and are further explained in Table 1 below:

Table 1. Result of Multiple Linear Regression Analysis

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-2.969	3.383		-.878	.382
1 X1	.321	.162	.176	1.982	.050
X2	.337	.158	.226	2.128	.036
X3	.302	.134	.180	2.249	.027
X4	.287	.110	.246	2.605	.011
X5	.336	.145	.205	2.312	.023

a. Dependent Variable: Y

Source: Data processed, 2025

The regression equation model that can be written from these results in the form of a regression equation is as follows: $Y = (-2.969) + 0.321X_1 + 0.337X_2 + 0.302X_3 + 0.287X_4 + 0.336X_5 + e$. The regression equation can be explained as follows: 1) The regression coefficient of the physical evidence variable (tangible) has a positive direction in its influence on customer satisfaction. 2) The reliability variable regression coefficient has a positive direction in its influence on customer satisfaction. 3) The regression coefficient of the responsiveness variable has a positive direction in its influence on customer satisfaction. 4) The regression coefficient of the assurance variable has a positive direction in its influence on customer satisfaction. 5) The regression coefficient of the care variable (empathy) has a positive direction in its influence on customer satisfaction.

From the results of the multiple regression coefficients described in the description above, hypothesis testing will then be carried out partially or simultaneously. Meanwhile, the results of simultaneous regression calculations can be seen in Table 2 below:

Simultaneous Regression Test**Table 2.** Results of Simultaneous Regression Test**ANOVA^a**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	788.120	5	157.624	20.384	.000 ^b
Residual	726.880	94	7.733		
Total	1515.000	99			

a. Dependent Variable: Y

b. Predictors: (Constant), X5, X1, X3, X4, X2

Source: Data processed, 2025

Testing the effect of independent variables together on the dependent variable is done using the F test. The results of statistical calculations show the value of F count = 20,384 with a significance of 0.000 < 0.05. With a significance value below 0.05, it shows that together physical evidence, reliability, responsiveness, assurance and care have a positive and significant influence on customer satisfaction.

Furthermore, the coefficient of determination is used to determine how much influence the independent variables have on the dependent variable. The coefficient of determination is determined by the R square value.

Coefficient of Determination**Table 3.** Coefficient of Determination**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.721 ^a	.520	.495	2.781

a. Predictors: (Constant), X5, X1, X3, X4, X2

Source: Data processed, 2025

The results of the regression calculation can be seen that the coefficient of determination (R²) obtained is 0.520. This means that 52% of customer satisfaction is influenced by physical evidence, reliability, responsiveness, assurance, and care, while the remaining 48% of customer satisfaction is influenced by other variables not examined in this study.

3.2 Discussion

This study aims to determine the effect of service quality with the dimensions of tangible, reliability, responsiveness, assurance, and empathy on customer satisfaction using goods delivery services in Makassar City. In general, this study shows that the results of the quality of service are quite satisfactory. The results of descriptive analysis show that the quality of service provided by goods delivery services in Makassar City is generally good. This can be shown from the many responses of quite good satisfaction from respondents to the conditions of each research variable.

Tjiptono (2015) describes service quality as an organizational effort to meet customer needs and desires through accurate and consistent service delivery that aligns with customer expectations. Guided



by this perspective, companies are expected to balance what customers anticipate with the actual service provided, thereby creating meaningful customer satisfaction. The findings of this study show that the service quality variable—measured through its five dimensions—exerts a positive and significant influence on customer satisfaction. This indicates that improvements across dimensions such as tangibles, reliability, responsiveness, assurance, and empathy contribute directly to increases in customer satisfaction levels.

The results of the F-test further confirm that the collective effect of all five service quality dimensions significantly determines the satisfaction experienced by customers. This supports the premise that consistently high-quality services foster positive customer experiences and reinforce satisfaction. Moreover, the coefficient of determination (R^2) value of 52% suggests that service quality accounts for more than half of the variance in customer satisfaction, while the remaining 48% is influenced by factors not examined in this study. These unobserved influences may include pricing, brand reputation, convenience, personal preferences, or external situational variables, highlighting the need for further research to capture a more comprehensive understanding of customer satisfaction determinants.

The findings indicate that the tangibles dimension has a positive and significant influence on customer satisfaction. This aligns with the view of Su & Teng (2018) and Karamustafa & Ülker (2020), who explain that because services are intangible, unable to be seen, smelled, or physically touched, the physical evidence associated with the service becomes an essential indicator for customers in evaluating service quality. The responses from survey participants reveal that the most influential indicator within this dimension is the availability of adequate transportation vehicles. Empirically, this suggests that physical facilities presented by the service provider, including four sizable warehouses and approximately 45 delivery vehicles, strengthen customer perceptions of professionalism and operational readiness. However, many respondents provided neutral assessments regarding other physical aspects, noting that employee uniforms were not consistently worn and that the company lacked a designated customer waiting area. These shortcomings contribute to reduced comfort and potentially diminish overall satisfaction despite the strengths in physical infrastructure.

The results further show that the reliability dimension also exerts a positive and significant effect on customer satisfaction. This finding supports the argument of Gao & Waechter (2017) and Ali et al. (2021), who states that reliability reflects an organization's ability to deliver services as promised. Based on questionnaire responses, the indicator with the strongest contribution to customer satisfaction is the simplicity of service procedures. This demonstrates that the company's reliability is reflected in its efficient handling of customer needs, particularly the speed of processing shipments, where goods generally reach their destination within four days. The straightforward and uncomplicated procedures implemented by the expedition service allow customers to send packages quickly without unnecessary delays. Such consistent performance reinforces customer trust, and the dependable behavior of employees becomes a key factor in shaping positive customer experiences and satisfaction.

The findings reveal that the responsiveness dimension exerts a positive and significant influence on customer satisfaction. This aligns with Tung et al. (2017) and Sharma et al. (2022), who defines responsiveness as the willingness and readiness of employees to assist customers and provide prompt, responsive service. Based on respondents' evaluations, the indicator with the greatest impact on satisfaction is the expedition service's ability to resolve customer issues quickly. Empirically, this demonstrates that employees' willingness to help customers lift items for shipment, promptly respond to complaints, and address problems efficiently contributes significantly to shaping customer satisfaction. A high level of responsiveness creates a perception of dependability and attentiveness, strengthening the overall service experience.

The results also show that the assurance dimension has a positive and significant effect on customer satisfaction. This is consistent with the perspectives of Kotler & Keller (2009) and Lupiyoadi & Hamdani



(2006:182), who highlight that assurance encompasses employee competence, courtesy, attentiveness, skill in conveying information, and the ability to provide a sense of security and trustworthiness to customers. Respondents' answers indicate that the most influential indicator on satisfaction is the delivery service's ability to offer appropriate solutions to customer problems. These findings provide empirical evidence that when customers feel confident in the knowledge, professionalism, and problem-solving ability of service personnel, their overall satisfaction increases. Assurance thus serves as a key driver in building customer trust and reinforcing positive service experiences.

This positive influence is reflected in the courteous and friendly behavior demonstrated by employees when interacting with customers—such as offering smiles, greetings, and proactively asking about customer needs. Employees also show adequate knowledge regarding delivery services, including shipping costs, estimated delivery time, and the availability of transportation fleets. Furthermore, customers perceive a strong sense of security when their goods arrive safely without damage. Such guarantees reinforce customer trust and strengthen the company's image, thereby increasing overall customer satisfaction. The combination of employee professionalism, strong communication skills, and well-managed service assurance forms a critical element in building long-term customer confidence.

The results further demonstrate that the empathy dimension has a positive and significant relationship with customer satisfaction. This supports Bove (2019) assertion that empathy involves sincere, individual, and personalized attention given by service providers to their customers—such as effective communication, understanding customer needs, and responding appropriately. Based on respondents' evaluations, the most influential indicator is the ability of delivery service personnel in Makassar City to communicate using clear and easily understood language. Empirically, this suggests that customers appreciate employees who show genuine concern by consistently asking about their needs, serving them promptly, communicating politely, avoiding arguments, and offering apologies when service errors occur. These behaviors foster a positive customer perception and, ultimately, lead to higher satisfaction levels.

4. CONCLUSIONS AND RECOMMENDATIONS

The analysis shows that the dimensions of tangibles (X1), reliability (X2), responsiveness (X3), and assurance (X4) each exert a positive and significant influence on customer satisfaction (Y). When assessed simultaneously, all five dimensions of service quality, including empathy (X5) collectively demonstrate a significant impact on customer satisfaction, confirming that high service quality consistently contributes to improved customer experiences. The R-square value of 0.520 indicates that 52% of variations in customer satisfaction can be explained by these five dimensions of service quality, while the remaining 48% is attributed to factors outside the scope of this study. These results underscore the crucial role of service quality in shaping customer perceptions and satisfaction within goods delivery services in Makassar City.

Based on these findings, several recommendations can be proposed. For companies, improvements in service quality should be prioritized across all dimensions: enhancing tangibles by adding customer facilities such as waiting rooms and additional warehouse space; strengthening reliability through employee training focused on time management and error reduction; increasing responsiveness by improving real-time communication and customer engagement; reinforcing assurance by offering prioritized delivery or contractual guarantees; and improving empathy by developing feedback mechanisms and training employees to better understand customers' needs. For future research, additional variables beyond the SERVQUAL dimensions such as pricing, service accessibility, promotional strategies, or product-related attributes should be included to provide a more comprehensive understanding of factors that influence customer satisfaction in the delivery service industry.



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