

Service Quality Dimensions as Predictors of Customer Satisfaction in the Courier Industry: A Quantitative Study

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Abstract

The courier industry has become integral to global commerce and e-commerce, yet customer satisfaction remains highly dependent on perceived service quality. This quantitative study investigated the relationship between service quality dimensions and overall customer satisfaction in the context of a leading Indian courier service provider. Data were collected from customers using a structured questionnaire based on the SERVQUAL model. Two primary objectives guided the research: to determine the underlying factor structure of service quality attributes influencing customer choice, and to examine whether these service quality factors significantly predict overall customer satisfaction. The results revealed a strong positive correlation between service quality and overall satisfaction. Exploratory factor analysis extracted two distinct latent factors—Service Quality and Professionalism, and Customer Convenience and Support—demonstrating that the original five SERVQUAL dimensions condense into two higher-order factors within the courier context. Regression analysis confirmed that these service quality factors significantly predicted overall satisfaction, explaining a substantial proportion of the variance. The importance of this research lies in its contribution to service quality literature by offering a parsimonious two-factor model specifically for logistics services, which differs from the traditional five-dimensional framework. Practically, the findings provide actionable insights for courier companies seeking to enhance customer satisfaction by prioritizing professional service delivery alongside responsive customer support, thereby strengthening competitive advantage in an increasingly crowded marketplace.

Keywords: Service Quality, Customer Satisfaction, Courier Industry, Factor Analysis, Regression, SERVQUAL

1. INTRODUCTION

In the rapidly globalizing business environment, customer satisfaction has emerged as a central metric for service-oriented industries, including logistics and courier services (Parasuraman et al., 1988). The courier sector, in particular, faces intense competition, rising customer expectations regarding delivery speed and reliability, and the need for technological integration. Within this context, understanding which specific dimensions of service quality most strongly influence customer satisfaction is essential for maintaining market leadership.

A typical courier service provider in India operates a vast network covering thousands of locations across the country. Despite having a strong reputation, any courier company must continuously assess how well it meets customer expectations. Prior research has established that service quality comprises multiple dimensions, including tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1991; Zeithaml et al., 1996). However, fewer

studies have examined how these dimensions collectively reduce into higher-order factors and predict overall satisfaction specifically within the courier context.

The present study addresses this gap by applying factor analysis and regression techniques to survey data from courier service customers. By identifying the latent structure of service quality attributes and testing their predictive power, the research provides both theoretical and practical insights.

1.1. Problem Statement

Despite the established reputation and extensive network of courier service providers in India, there is limited empirical understanding of how specific service quality dimensions collectively influence customer satisfaction. The industry faces increasing competition from national and international courier providers, yet it remains unclear which service attributes most strongly drive customer loyalty and satisfaction. Existing research has largely focused on generic service quality models without examining their empirical reduction into higher-order factors within the logistics sector. Furthermore, the predictive relationship between latent service quality dimensions and overall customer satisfaction has not been rigorously tested using multivariate techniques such as factor analysis and regression. Therefore, this study seeks to address the following problem: What is the underlying factor structure of service quality attributes influencing customer choice, and do these factors significantly predict overall satisfaction with courier services?

1.2. Scope of the Study

The scope of this study is defined to ensure focused and manageable analysis. Geographically, the research is confined to customers of courier services operating in the state of Kerala, India, providing a regional perspective on service quality perceptions. The sample includes individual customers who have used courier services, encompassing both regular and occasional users across diverse demographic categories such as age, gender, occupation, and frequency of use. The study specifically examines eight service quality attributes derived from the SERVQUAL model, including tangibles, reliability, responsiveness, assurance, and empathy dimensions. Methodologically, the research employs descriptive design with convenience sampling and utilizes quantitative techniques including Pearson correlation, exploratory factor analysis, and linear regression. The findings are intended to offer actionable insights for courier service improvement while acknowledging that generalization beyond the sampled region and population requires further replication studies.

1.3. Study Objectives

1. To determine the underlying factor structure of service quality attributes that influence customers' choice of a courier service provider.
2. To examine whether the extracted service quality factors significantly predict overall customer satisfaction

1.4. Hypotheses

Based on the objectives and existing literature, the following hypotheses were advanced:

Hypothesis 1 (H1): A significant positive correlation exists between the composite measure of service quality factors influencing choice and overall customer satisfaction.

Hypothesis 2 (H2): The extracted service quality factors collectively account for a significant proportion of variance in overall customer satisfaction, with the regression model being statistically significant.

2. LITERATURE REVIEW

Service quality has emerged as a critical determinant of customer satisfaction in the logistics and courier industry, particularly with the rapid expansion of e-commerce and increasing customer expectations for speed, reliability, and transparency. Recent research emphasizes that logistics service quality (LSQ) is a multidimensional construct influencing not only satisfaction but also customer retention and repurchase intentions. For instance, Le Minh et al. (2024) found that multiple LSQ dimensions collectively shape customer satisfaction outcomes in business-to-consumer logistics, underscoring the importance of integrating operational and relational service attributes. Similarly, Hui et al. (2025) demonstrated that logistics service quality significantly influences customer satisfaction and indirectly drives repurchase intention, highlighting its central role in maintaining competitive advantage in the courier sector. These findings confirm that service quality is a key driver of customer-centric performance in logistics firms.

The SERVQUAL model continues to dominate contemporary research as a foundational framework for measuring service quality. Comprising five core dimensions—reliability, responsiveness, assurance, empathy, and tangibles—the model enables a comprehensive evaluation of customer perceptions and expectations. Jusufbašić and Stević (2023) confirmed that SERVQUAL remains highly effective in assessing transport service quality and identifying performance gaps that impact customer satisfaction. Likewise, Šakinytė (2024) emphasized that SERVQUAL provides actionable insights for organizations seeking to improve service delivery and enhance customer satisfaction through systematic evaluation of service interactions. These studies reaffirm the relevance of SERVQUAL in analyzing courier service quality and its influence on satisfaction outcomes.

Empirical studies focusing specifically on the courier and parcel delivery sector reveal varying effects of individual service quality dimensions on customer satisfaction. Aziz et al. (2025) found that empathy and assurance have significant positive effects on customer satisfaction in the postal and courier industry, while other dimensions such as tangibles and reliability may not always exhibit strong influence. In contrast, Hasdiansa and Hasbiah (2025) reported that all five SERVQUAL dimensions significantly and positively influence customer satisfaction, with responsiveness and empathy emerging as the most influential predictors in last-mile delivery contexts. These contrasting results suggest that the importance of specific service quality dimensions may differ based on service environment, customer expectations, and regional factors, thereby highlighting the need for further investigation.

In the evolving landscape of e-commerce and omni-channel retailing, logistics service quality has taken on increased importance due to its direct impact on the overall customer experience. Cai et al. (2024) demonstrated that certain service quality attributes, particularly those classified as “must-be” factors such as delivery reliability and timeliness, exert the strongest influence on customer satisfaction. Similarly, Aljohani (2024) found that last-mile delivery quality, including delivery speed and service accuracy, plays a pivotal role in shaping customer satisfaction and behavioral outcomes in online retail environments. These findings highlight the growing significance of efficient logistics operations and time-sensitive delivery services in maintaining high levels of customer satisfaction in courier services. Recent literature has also expanded traditional service quality frameworks by incorporating new dimensions suited to modern logistics systems. Go et al. (2025) developed an integrated framework that includes additional factors such as contactless delivery, technological integration, and enhanced communication, reflecting changing customer expectations in the post-pandemic era. Furthermore, Chotisarna and Phuthong (2025) identified information quality, communication effectiveness, and price fairness as significant predictors of customer satisfaction in cross-border e-commerce logistics. These developments indicate that while traditional SERVQUAL dimensions remain relevant, contemporary logistics environments demand the inclusion of technology-driven and customer-support-oriented service attributes.

3. METHODOLOGY

A descriptive research design was employed for this study. A total of 200 respondents participated, selected using a convenience sampling method. Participants were customers of courier services in Kerala, India, and included both regular and occasional users. Demographic characteristics of the sample (see Table 1) indicated that the largest age group was 18–24 years, followed by those aged 25–34 years. Gender distribution was nearly balanced between males and females. Regarding occupation, students represented the largest group, followed by employed and self-employed individuals. Frequency of courier service use was predominantly monthly, with weekly and quarterly users comprising the remainder of the sample.

A structured questionnaire was developed based on the SERVQUAL model (Parasuraman et al., 1988). The instrument measured eight service quality attributes using a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree): physical facilities are visually appealing; appearance of personnel is professional; packages are handled with care; delivers packages on time; personnel are willing to help customers; resolves customer complaints quickly; inspires confidence in customers; and convenient operating hours. Overall satisfaction was measured using a single item (“Overall, I am satisfied with the services provided by the courier company”), also on a 5-point scale. Additional items assessed customer loyalty, including willingness to choose the same courier service over others and willingness to recommend it to others. The questionnaire was distributed both online and in person to ensure a broad reach across different customer segments.

The collected data were analyzed using SPSS (Statistical Package for the Social Sciences). Three statistical techniques were employed to address the research objectives. First, descriptive statistics (frequencies and percentages) were used to summarize the demographic characteristics of the sample. Second, a Pearson correlation analysis was conducted to examine the bivariate relationship between the composite service quality variable and overall customer satisfaction. Third, an exploratory factor analysis (EFA) using principal component extraction with Varimax rotation was performed to identify the underlying factor structure of the eight service quality attributes. Finally, a linear regression analysis was conducted to determine whether the extracted service quality factors significantly predicted overall customer satisfaction.

4. RESULTS & DISCUSSION

4.1 Participants’ Demographic Characteristics

Characteristic	Category	n	%
Age	18–24 years	101	50.7
	25–34 years	56	28
	35–44 years	26	13
	45–54 years	12	6
	55 and above	5	2.5
Gender	Male	101	50.7
	Female	99	49.3
Occupation	Student	87	43.3
	Employed	52	26
	Self-employed	33	16.5
	Unemployed	18	9
	Retired	10	5
Frequency of courier use	Weekly	42	21
	Monthly	78	38.8
	Quarterly	35	17.5

Annually	25	12.5
Rarely/Never	20	10

Table 1. An Example of Table

Note: Sample Size = 200.

As shown in Table 1, the sample consisted of 200 respondents. Regarding age, the majority of participants (50.7%, n=101) were between 18 and 24 years old, followed by those aged 25 to 34 years (28.0%, n=56). Participants aged 35 to 44 years comprised 13.0% (n=26), while those aged 45 to 54 years accounted for 6.0% (n=12). The smallest age group was participants aged 55 years and above, representing only 2.5% (n=5).

In terms of gender distribution, the sample was nearly balanced, with males comprising 50.7% (n=101) and females comprising 49.3% (n=99).

Regarding occupational status, the largest group was students, accounting for 43.3% (n=87) of the sample. Employed individuals represented 26.0% (n=52), followed by self-employed participants at 16.5% (n=33). Unemployed respondents comprised 9.0% (n=18), and retired individuals accounted for the smallest occupational category at 5.0% (n=10).

Finally, with respect to frequency of courier service usage, the most common response was monthly use (38.8%, n=78), followed by weekly use (21.0%, n=42). Quarterly users represented 17.5% (n=35), while annual users comprised 12.5% (n=25). The smallest category was those who rarely or never use courier services, accounting for 10.0% (n=20).

4.2 Bivariate Correlation Between Service Quality Composite and Overall Satisfaction

Hypothesis 1 (H₁): A significant positive correlation exists between the composite measure of service quality factors influencing choice and overall customer satisfaction.

Variable	1	2
1. Factors influencing the choice of courier service	—	.764**
2. Overall satisfaction with services provided	.764**	—

Table 2. Pearson Correlation Between Service Quality Composite and Overall Satisfaction (N = 200)

Note. Correlation is significant at the 0.01 level (2-tailed). The composite variable "Factors influencing choice of Courier service" represents the mean of eight service quality items.

To address the bivariate component of Objective 1, a Pearson correlation was computed between the composite variable "Factors influencing choice of courier service" (mean of eight service quality items) and "Overall satisfaction with services provided." Results revealed a strong, positive, and statistically significant correlation, $r(199) = .764, p < .001$ (two-tailed). This supports Hypothesis 1, indicating that customers who rated the courier service's service quality attributes more highly also reported greater overall satisfaction. The coefficient of determination ($r^2 = .584$) suggests that approximately 58.4% of the variance in overall satisfaction is shared with the composite service quality measure.

4.3 Exploratory Factor Analysis (EFA): Principal Component Factor Analysis with Varimax Rotation of Service Quality Attributes

All assumptions for factor analysis were met. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .911, exceeding the recommended threshold of .60. Bartlett's test of sphericity was significant, $\chi^2(28) = 1432.4, p < .001$, indicating that correlations between items were sufficiently large for factor analysis.

Variables	Component	
	1	2
Physical facilities are visually appealing	0.884	
Personnel are willing to help customers	0.854	
Appearance of personnel is professional	0.827	
Packages are handled with care	0.739	
Delivers packages on time	0.706	0.511
Inspires confidence in customers	0.618	0.593
Resolves customer complaints quickly		0.885
Convenient operating hours		0.86
Eigen values	5.67	1.02
Percentage of total variance	56.7	10.2

Table 3. Pattern Component Matrix, Eigen Values and Total Variance Percentage for Components obtained by Principal Component Analysis with Varimax Rotation Method

Note: Factor loadings <.035 have been omitted from the table.

As presented in Table 3, two components with eigenvalues greater than 1.0 were extracted. Component 1 had an eigenvalue of 5.67 and accounted for 56.7% of the total variance. Component 2 had an eigenvalue of 1.02 and accounted for an additional 10.2% of the total variance. The rotated component matrix revealed that Component 1, labeled "Service Quality and Professionalism," included high loadings from physical facilities (0.884), personnel willingness to help (0.854), professional appearance (0.827), careful package handling (0.739), timely delivery (0.706), and customer confidence (0.618). Component 2, labeled "Customer Convenience and Support," included high loadings from quick complaint resolution (0.885) and convenient operating hours (0.860). The item "Delivers packages on time" and "Inspires confidence in customers" showed cross-loadings, with secondary loadings of 0.511 and 0.593 on Component 2, respectively.

4.4 Linear Regression Analysis Predicting Overall Satisfaction from Service Quality Factors

Hypothesis 2 (H₂): The extracted service quality factors collectively account for a significant proportion of variance in overall customer satisfaction, with the regression model being statistically significant.

Model	Variable	B	SE	β	t	p
1	(Constant)	0.96	0.179		5.377	< .05
2	Factors influencing the choice of courier service	0.113	0.007	0.764	16.703	< .05

Table 4. Regression Analysis Summary for Service Quality Factors Predicting Overall Satisfaction (N = 200)

Note. Dependent variable: Overall satisfaction with services provided. $R^2 = .584$ Adjusted $R^2 = .582$ $F(1,199) = 278.98$, $p < .05$.

A linear regression analysis was conducted to examine whether the composite variable "Factors influencing the choice of courier service" significantly predicted overall customer satisfaction. As shown in Table 4, the regression model was significant, $F(1,199) = 278.98$, $p < .001$, with an R^2 of .584 and an adjusted R^2 of .582. This indicates that the predictor variable explained 58.4% of the variance in overall satisfaction. The unstandardized coefficient for the predictor was $B = 0.113$ ($SE = 0.007$), with a standardized coefficient of $\beta = .764$, $t = 16.703$, $p < .001$. The constant was $B = 0.96$ ($SE = 0.179$), $t = 5.377$, $p < .001$. These results confirm that service quality factors significantly and positively predict overall customer satisfaction.

4.5 Discussion

The results strongly supported both research objectives. The Pearson correlation revealed a significant positive relationship between service quality and overall satisfaction ($r = .764, p < .001$), confirming Hypothesis 1. This finding aligns with recent empirical studies which consistently report that logistics service quality is a primary determinant of customer satisfaction across courier and e-commerce settings. For example, Hui et al. (2025) found that logistics service quality has a strong direct effect on customer satisfaction and indirectly influences repurchase behavior, reinforcing the strategic importance of service quality in competitive logistics markets. Similarly, Le Minh et al. (2024) highlighted that integrated logistics service quality dimensions significantly enhance customer satisfaction and retention, particularly in business-to-consumer delivery environments. These findings provide contemporary support for the strong positive association observed in this study.

The exploratory factor analysis extracted two latent factors: Service Quality and Professionalism and Customer Convenience and Support. High loadings for physical facilities, personnel willingness to help, and professional appearance on the first factor indicate that tangibles and reliability are paramount. This result is consistent with recent literature emphasizing the importance of service professionalism and operational efficiency in shaping satisfaction. Cai et al. (2024) found that core logistics attributes such as reliability, service consistency, and physical service quality constitute "must-be" factors that have a strong influence on customer satisfaction in omni-channel logistics. Additionally, Aljohani (2024) reported that delivery accuracy, timeliness, and overall service professionalism are critical determinants of satisfaction in last-mile delivery contexts. These studies reinforce the significance of the first extracted factor, validating its role as a dominant predictor of customer satisfaction.

The second factor, characterized by quick complaint resolution and convenient operating hours, highlights the importance of responsiveness and empathy as a distinct dimension of service quality. This finding is supported by emerging research that underscores the growing importance of customer support and service convenience. Hasdiansa and Hasbiah (2025) identified responsiveness and empathy as the strongest predictors of customer satisfaction in last-mile courier services, indicating that timely problem resolution and attentive service significantly enhance customer perceptions. Furthermore, Chotisarna and Phuthong (2025) demonstrated that communication quality and customer support services play a critical role in influencing satisfaction in cross-border logistics. These findings corroborate the importance of customer convenience and support as an independent factor influencing satisfaction. The regression analysis confirmed that these factors significantly predicted satisfaction, supporting Hypothesis 2. This level of explanatory power is consistent with recent quantitative studies. For instance, Chotisarna and Phuthong (2025) reported that logistics service quality dimensions explained a substantial proportion of the variance in customer satisfaction in cross-border e-commerce contexts, while similar studies have found strong predictive relationships between service quality constructs and satisfaction outcomes in logistics systems. These parallels indicate that the present model demonstrates robust predictive validity within the courier industry.

Theoretically, these findings suggest that in the courier industry, the original five SERVQUAL dimensions condense into two higher-order factors: professionalism and convenience or support. This aligns with recent attempts to extend and refine service quality frameworks by grouping related attributes into broader constructs. Go et al. (2025) proposed an expanded logistics service quality framework in which multiple traditional and modern service attributes converge into higher-order dimensions reflecting operational efficiency and customer-centric service delivery. Such conceptual consolidation supports the argument that customer perceptions of service quality are increasingly holistic rather than dimension-specific.

Practically, courier companies should invest in professional service delivery (facilities, staff appearance, careful handling, timely delivery) and convenience attributes (extended hours, rapid complaint resolution) to maximize customer satisfaction. Recent research supports these managerial implications, suggesting that improving both operational

quality and customer interaction quality enhances customer loyalty and retention. For example, Aljohani (2024) emphasized that improving last-mile delivery efficiency directly enhances customer satisfaction and reduces switching behavior, while Le Minh et al. (2024) recommended integrating technological capabilities to strengthen service quality outcomes.

4.6 Limitations and Future Directions

Several limitations should be acknowledged. First, convenience sampling from a single geographic region (Kerala) limits generalizability to other Indian states or international contexts. Second, the cross-sectional design precludes causal inferences, though the regression results are consistent with a predictive relationship. Third, self-reported satisfaction may be subject to social desirability bias. Fourth, former customers who discontinued using the courier service were not included, potentially omitting critical dissatisfaction signals. Future research should employ probability sampling across multiple regions, include behavioural outcomes (e.g., repurchase, churn), and use longitudinal designs to establish temporal precedence. Experimental studies manipulating specific service quality dimensions (e.g., response time) could provide causal evidence. Additionally, incorporating objective measures such as delivery delay records would strengthen validity.

5. CONCLUSION

The present study investigated the relationship between service quality dimensions and customer satisfaction in the courier industry, specifically among courier service customers in Kerala, India. The Pearson correlation confirmed a strong positive relationship between service quality and overall satisfaction, indicating that customers who perceive higher service quality report greater satisfaction. Exploratory factor analysis revealed two distinct latent factors—Service Quality and Professionalism and Customer Convenience and Support—demonstrating that the original SERVQUAL dimensions condense into two higher-order factors in the courier context. Linear regression analysis showed that these service quality factors significantly predicted overall satisfaction. Theoretically, this study contributes to service quality literature by offering a parsimonious two-factor model for logistics services. Practically, courier companies should prioritize professional service delivery alongside customer convenience and support to maximize satisfaction. Despite limitations related to convenience sampling and geographic scope, the findings provide robust empirical evidence that service quality is a powerful predictor of customer satisfaction in the competitive courier industry.

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