Tangible Service Quality and Customer Satisfaction in Quick Commerce Applications: Empirical Evidence from Haryana

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Abstract: *The rapid expansion of quick commerce applications has intensified competition among digital retail platforms, making service quality a critical determinant of customer satisfaction. This study examines the influence of tangible service quality attributes on customer satisfaction in quick commerce applications operating in Haryana. Using the SERVQUAL framework, primary data were collected from 500 active users of quick commerce applications. Tangible attributes such as app interface design, packaging quality, product condition upon delivery, and appearance of delivery personnel were measured. Data were analysed using descriptive statistics, Pearson's correlation, and multiple regression analysis. The results indicate a statistically significant and positive relationship between tangible service quality and customer satisfaction (r = 0.46, p < 0.05). Regression analysis shows that tangible service quality explains 21% of the variance in customer satisfaction, confirming its meaningful predictive power. The findings suggest that physical and visual service cues remain essential even in app-based retail environments. Managers should focus on improving packaging consistency, interface aesthetics, and delivery professionalism. The study extends SERVQUAL applicability to the emerging quick commerce sector in India and provides empirical evidence from a developing market context.*

Keywords: Tangibles, Customer satisfaction, Quick commerce, Service quality, SERVQUAL, India

1. Introduction

The emergence of quick commerce applications has transformed the retail landscape by enabling ultra-fast delivery of essential goods through digital platforms. Unlike traditional e-commerce models, quick commerce emphasises immediacy, convenience, and operational precision, making customer satisfaction highly sensitive to service quality performance.

Customer satisfaction in such hybrid service systems is influenced not only by operational efficiency but also by tangible service cues that shape perceptions of reliability and professionalism. Tangibles, as conceptualised in the SERVQUAL model, include physical facilities, visual appearance, and service presentation (Parasuraman et al. 1988). In the context of quick commerce, these cues extend to app interface aesthetics, packaging standards, condition of delivered products, and the professional appearance of delivery personnel.

Although digital commerce is often perceived as intangible, prior research indicates that physical and visual cues significantly influence trust and satisfaction in online services (Lee and Turban 2001; Zeithaml et al. 2018). However, empirical studies focusing on tangibles in quick commerce, particularly in the Indian context, remain limited. Addressing this gap, the present study investigates the impact of tangible service quality on customer satisfaction among quick commerce app users in Haryana.

2. Literature Review

Tangibles and Service Quality: The SERVQUAL framework identifies tangibles as a core dimension of service quality, highlighting their role in shaping first impressions and reducing perceived service risk (Parasuraman et al. 1988). Tangible cues act as signals of service credibility, especially when customers cannot directly evaluate service processes.

Tangibles in Digital and App-Based Services: In digital environments, interface design and visual appeal function as substitutes for traditional physical facilities (Chaffey et al. 2009). Lee and Turban (2001) demonstrated that visually appealing online interfaces enhance trust and satisfaction. Packaging quality and product condition further reinforce perceived value and post-purchase satisfaction (Kim et al. 2012).

Research Gap and Hypothesis Development: While usability has been emphasised over aesthetics in earlier research (Nielsen 1993), recent studies suggest that consistency across digital and physical touchpoints is critical in logistics-intensive services such as quick commerce (Vakulenko et al. 2019). Accordingly, the present study hypothesises a significant positive relationship between tangible service quality and customer satisfaction.

Research Objectives: To assess customer perceptions of tangible service quality in quick commerce applications, examine the relationship between tangible service quality and customer satisfaction, and analyse the predictive impact of tangible service quality on customer satisfaction

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Hypotheses
H1: Tangible service quality has no significant relationship with customer satisfaction
H2: Tangible service quality has a significant relationship with customer satisfaction

3. Research Methodology

A descriptive and explanatory research design was adopted. Primary data were collected from 500 active users of quick commerce applications in Haryana using a structured SERVQUAL-based questionnaire. Responses were measured on a five-point Likert scale. Descriptive statistics, Pearson's correlation, and multiple regression analysis were employed. The scale demonstrated acceptable reliability and validity.

4. Results

Descriptive Analysis of Tangible Service Quality
Table 1 presents the descriptive statistics of tangible service quality attributes as perceived by users of quick commerce applications. The mean scores of individual tangible attributes range from 3.02 to 3.38, indicating an overall satisfactory level of customer perception regarding tangible aspects of service delivery. The overall tangibles mean score of 3.22 suggests that customers generally hold positive, though not exceptionally high, evaluations of the physical and visual cues associated with quick commerce services.

Among the tangible attributes, app interface visual **appeal** recorded the highest mean score (Mean = 3.38, SD = 0.74). This indicates that respondents perceive the design, layout, and aesthetic quality of quick commerce applications as visually acceptable and user-friendly. In digital service environments, the interface serves as a critical substitute for physical facilities, and its visual appeal significantly influences initial impressions and perceived service professionalism (Lee & Turban, 2001; Chaffey et al., 2009).

The condition of products upon delivery also received a relatively high mean score (Mean = 3.28, SD = 0.72), suggesting that customers are largely satisfied with how products are handled and delivered. This finding underscores the importance of last-mile service execution in quick commerce, where product condition acts as a tangible indicator of service reliability and care (Vakulenko et al., 2019).

The attribute appearance of delivery personnel recorded a mean score of **3.10** (SD = 0.78), reflecting moderate satisfaction. As delivery personnel represent the only direct human interaction in quick commerce services, their professional appearance plays a significant role in shaping customer perceptions of service quality and trust (Rita et al., 2019).

In contrast, packaging quality obtained the lowest mean score (Mean = 3.02, SD = 0.81), indicating a relatively weaker performance among tangible attributes. Although still within the satisfactory range, this result suggests that inconsistencies in packaging standards may negatively influence customer evaluations. Prior studies have noted that inadequate or inconsistent packaging can diminish perceived value and overall satisfaction, particularly in e-commerce and logistics-intensive services (Kim et al., 2012).

Overall, the descriptive results indicate that while customers are generally satisfied with tangible aspects of quick commerce services, there remains scope for improvement, particularly in standardizing packaging quality and enhancing delivery presentation.

Table 1: Descriptive Statistics of Tangible Attributes

Attribute	Mean	SD
App interface visually appealing	3.38	0.74
Packaging quality	3.02	0.81
Appearance of delivery personnel	3.10	0.78
Product condition upon delivery	3.28	0.72
Overall tangibles	**3.22**	—

Relationship Between Tangibles and Customer Satisfaction
Table 2 presents the results of Pearson's correlation analysis examining the relationship between tangible service quality and customer satisfaction. The correlation coefficient (**r = 0.46**) indicates a **moderate and positive relationship** between tangibles and customer satisfaction, which is statistically significant at the 5 percent level ($p < 0.05$).

This finding suggests that improvements in tangible service attributes- such as enhanced app design, better packaging quality, professional delivery appearance, and improved product handling- are associated with higher levels of customer satisfaction. The moderate strength of the relationship implies that while tangibles are important, they function as complementary determinants rather than primary drivers of satisfaction in quick commerce services.

The result supports the SERVQUAL framework, which posits tangibles as a foundational dimension influencing customer perceptions of service quality (Parasuraman et al., 1988). It also aligns with previous research indicating that physical and visual cues significantly influence satisfaction in digital retail contexts (Lee & Turban, 2001; Chaffey et al., 2009).

Table 2: Correlation Analysis

Variables	r	Significance
Tangibles – Customer satisfaction	0.46	$p < 0.05$

Impact of Tangibles on Customer Satisfaction
To further examine the predictive influence of tangible service quality on customer satisfaction, multiple regression analysis was conducted. As shown in Table 3, tangibles have a statistically significant positive impact on customer satisfaction ($\beta = 0.38$, $p < 0.001$). The standardized beta coefficient indicates that a one-unit increase in perceived tangible service quality leads to a substantial increase in customer satisfaction.

The coefficient of determination ($R^2 = 0.21$) reveals that tangible attributes explain 21 percent of the variance in customer satisfaction. The regression model is statistically significant ($F = 112.36$), confirming the robustness of the relationship.

These findings indicate that although customer satisfaction in quick commerce is influenced by multiple service quality dimensions, tangible elements make a meaningful and independent contribution. This result corroborates earlier studies which suggest that while operational reliability remains critical, tangible cues significantly enhance customers' overall service experience by reinforcing trust and perceived professionalism (Vakulenko et al., 2019; Rita et al., 2019).

Table 3: Regression Results

Predictor	β	t-value	p
Tangibles	0.38	8.92	0.000
$R^2 = 0.21$; F = 112.36			

The combined descriptive, correlational, and regression results confirm that tangible service quality plays a statistically significant and meaningful role in shaping customer satisfaction in quick commerce applications. While tangibles may not exert the strongest influence compared to core operational dimensions such as reliability, they serve as essential supporting factors that enhance customers' perceptions of service credibility and quality.

In highly competitive quick commerce markets, consistent attention to tangible service elements- particularly packaging quality, app interface design, and delivery presentation—can contribute to improved customer satisfaction and differentiation. These findings reinforce the continued relevance of tangible service cues in digitally mediated retail environments.

The results confirm that tangible service quality significantly influences customer satisfaction in quick commerce applications. Although the explanatory power is moderate, the findings indicate that tangibles complement core operational dimensions such as reliability. These results support SERVQUAL theory (Parasuraman et al. 1988) and align with previous studies emphasising the importance of visual and physical cues in digital services (Lee and Turban 2001; Vakulenko et al. 2019).

In the Indian context, professional delivery presentation and product condition appear particularly influential, reflecting consumers' expectations of service credibility and care.

The study concludes that tangible service quality is a significant determinant of customer satisfaction in quick commerce applications. Managers should invest in standardised packaging, visually appealing app interfaces, and professional delivery practices. Future research may integrate tangibles with other SERVQUAL dimensions using longitudinal or SEM-based approaches.

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