

# Perceived Food Quality and Customer Satisfaction in Cloud Kitchens: A Review of Consumer-Centric Approach

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**Abstract:** *Cloud kitchens—delivery-only restaurant models—are transforming the food service industry by prioritizing speed, convenience, and efficiency. In this digital-first format, consumer satisfaction depends less on ambiance and more on perceived food quality, including taste, hygiene, packaging, and delivery experience. This paper explores how these factors influence customer satisfaction and loyalty through a review of secondary data and literature. Using the SERVQUAL model as a framework, the study analyzes key service quality dimensions relevant to cloud kitchens, also highlighting the importance of responsiveness and assurance in driving repeat purchases and brand trust in the competitive online food delivery ecosystem.*

**Keywords:** Cloud Kitchen, Perceived Food Quality, Customer Satisfaction, Online Food Delivery, Service Quality, SERVQUAL Model

## I. INTRODUCTION

The rapid evolution of the food service industry in the digital era has given rise to a disruptive and highly scalable model known as the cloud kitchen. Also referred to as ghost kitchens or virtual kitchens, these delivery-only establishments operate without a physical storefront or dine-in facility. With the explosive growth of food aggregator platforms like Zomato, Swiggy, and Uber Eats, cloud kitchens have transformed the way food is prepared, marketed, and consumed, offering convenience, speed, and variety at the touch of a screen.

In this model, the customer's perception of quality is largely shaped by non-traditional touchpoints such as mobile app interfaces, packaging aesthetics, delivery timing, and hygiene assurance. As competition intensifies and consumer expectations rise, understanding what drives satisfaction and loyalty in this format becomes vital for long-term sustainability.

This paper adopts a consumer-centric lens to explore how various dimensions of perceived food quality—such as taste, freshness, packaging hygiene, and delivery efficiency—influence overall customer satisfaction and repeat purchase behavior in the cloud kitchen space. Drawing upon the SERVQUAL model as a theoretical framework, the study synthesizes findings from secondary data, including academic literature, industry reports, user reviews, and platform analytics. The research aims to offer a holistic understanding of how digital-first food businesses can deliver not just meals but also experiences that foster trust, satisfaction, and loyalty. By bridging the gap between service theory and practical business realities, this study contributes to emerging discussions on digital food delivery, virtual brand building, and customer relationship management in the post-pandemic food economy.

### 1.1 Application of SERVQUAL Dimensions to Cloud Kitchens

The SERVQUAL Model, developed by Parasuraman, Zeithaml, and Berry, is widely used to measure service quality by analyzing gaps between customer expectations and perceptions across five key dimensions. In the context of cloud kitchens—where face-to-face interaction is absent—the model helps assess how digital and physical service components shape consumer satisfaction.

| Dimensions     | Cloud Kitchen Context                                           | Indicators                                                                                                                                                       |
|----------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tangibles      | Perceived physical quality through digital and delivery mediums | <ul style="list-style-type: none"> <li>- Packaging design &amp; hygiene</li> <li>- Branding &amp; labeling</li> <li>- Visuals on food aggregator apps</li> </ul> |
| Reliability    | Accuracy and consistency in fulfilling orders                   | <ul style="list-style-type: none"> <li>- Correct items delivered</li> <li>- Quality matching digital descriptions</li> <li>- Freshness consistency</li> </ul>    |
| Responsiveness | Quick resolution of issues and on-time delivery                 | <ul style="list-style-type: none"> <li>- Speed of food preparation</li> <li>- Timely dispatch</li> <li>- Quick responses to app-based</li> </ul>                 |
| Assurance      | Building consumer trust in food safety and hygiene              | <ul style="list-style-type: none"> <li>- Sealed packaging</li> <li>- Contactless delivery</li> <li>- Mention of FSSAI or hygiene ratings</li> </ul>              |
| Empathy        | Personalized attention despite digital distance                 | <ul style="list-style-type: none"> <li>- Customizable options</li> <li>- Apology messages for delays</li> <li>- Offers/promos for loyal users</li> </ul>         |

## II. REVIEW OF LITERATURE

**Yeo, V. C. S., Goh, S. K., and Rezaei, S. (2017)**, in their study titled “*Consumer Experiences, Attitude, and Behavioral Intention Toward Online Food Delivery (OFD) Services*”, explored key factors influencing customer satisfaction in digital food services. They found that food presentation, timely delivery, and hygienic packaging were critical, especially in the absence of dine-in experiences. The study emphasized the importance of aligning digital menu visuals with actual food delivered to avoid negative perceptions.

**Ray, A., Dhir, A., Bala, P. K., and Kaur, P. (2019)**, in their paper titled “*Why Do People Use Food Delivery Apps (FDAs)?*” examined the factors influencing usage and repeat orders in the online food delivery sector. The study highlighted reliability, freshness, and convenience as the primary drivers of customer loyalty. The authors concluded that, in cloud kitchen models where physical cues are absent, digital trust forms the foundation of brand-consumer relationships.

**Bhattacharyya, S. (2021)**, in the paper titled “*A Study on Consumer Satisfaction Toward Food Delivery Apps in India*”, conducted a consumer survey that revealed key causes of dissatisfaction—namely delivery delays, order inaccuracies, and food spillage. Interestingly, the study noted that well-designed and hygienic packaging significantly enhanced customer perception of care and quality, making it a critical factor in customer retention.

**Choudhury, S., and Dey, A. (2021)**, in their work “*Cloud Kitchen: The Future of the Food Delivery Business*”, addressed the impact of COVID-19 on consumer expectations. They observed a marked shift in preferences toward safe, sealed, and contactless deliveries, with customers expecting food to arrive warm, contamination-free, and tamper-proof, thus redefining service quality benchmarks in online food delivery.

**Bashir, A., Mehboob, I., and Bhatti, M. K. (2020)**, in the study “*Impact of Service Quality on Customer Loyalty in Online Food Delivery Services*”, found a strong relationship between timely delivery, order accuracy, and customer

loyalty. The study pointed out that even minor lapses, such as cold food or incorrect packaging, significantly affected online reviews and repeat purchase intentions.

### **III. OBJECTIVES OF THE STUDY**

- To explore the various dimensions of perceived food quality in cloud kitchens.
- To examine how these perceptions impact customer satisfaction and repeat purchase behavior.
- To identify emerging trends and consumer expectations from secondary research sources.
- To analyze the influence of delivery-related factors like timing, temperature control, order accuracy on perceived service quality in cloud kitchens.
- To examine the role of digital platforms in shaping customer expectations and satisfaction.
- To explore how packaging aesthetics and hygiene assurance impact trust and brand perception in online food delivery.

#### **3.1 Methodology**

The present study adopts a conceptual and review-based approach, relying on secondary data sources to examine the relationship between perceived food quality and customer satisfaction in the cloud kitchen business model. The research methodology is outlined below:

#### **3.2 Nature of the Study**

This is a qualitative, exploratory, and review-based study that synthesizes existing literature rather than collecting primary data. The rationale for this approach lies in the rapidly evolving nature of the cloud kitchen sector and the growing but fragmented body of scholarly and industry research. By consolidating these findings, the study aims to provide a holistic understanding of consumer perceptions in the delivery-only food service model.

#### **3.3 Data Sources**

The study relies entirely on secondary data drawn from a wide range of credible and relevant sources, including:

- **Scholarly Databases:** Scopus, Web of Science, Google Scholar
- **Peer-Reviewed Journals:** *Journal of Retailing and Consumer Services*, *International Journal of Contemporary Hospitality Management*, *International Journal of Business and Management*
- **Industry Reports:** Market research reports, consultancy whitepapers (e.g., Deloitte, McKinsey, FICCI reports on food services)
- **Digital Platforms & User Feedback:** Analysis of consumer reviews and feedback on aggregator apps such as Zomato and Swiggy, as well as online review sites and social media discussions

#### **3.4 Approach and Analytical Framework**

The methodology combines two approaches:

##### **Systematic Literature Review (SLR):**

A structured process was followed to identify, screen, and analyze existing studies.

Keywords used included *cloud kitchens*, *online food delivery*, *perceived food quality*, *customer satisfaction*, *service quality*, *SERVQUAL model*.

Duplicates and irrelevant results were excluded.

Around **40–50 research papers and reports** were shortlisted, out of which key representative studies were synthesized in this paper.

##### **SERVQUAL Framework Application:**

The SERVQUAL model (Parasuraman, Zeithaml & Berry) was used as a **theoretical lens** to classify and interpret the findings.

Each dimension (Tangibles, Reliability, Responsiveness, Assurance, Empathy) was mapped to cloud kitchen-specific indicators, including packaging hygiene, delivery timeliness, app responsiveness, food safety assurance, and personalization.

This framework enabled the systematic categorization of consumer-centric insights from diverse sources, highlighting which dimensions play the most significant role in influencing satisfaction and loyalty in cloud kitchens.

### **3.5 Limitations of the Methodology**

As a review-based study, it does not include primary data collection such as consumer surveys or interviews.

Findings are contingent on the quality, reliability, and scope of secondary sources.

The focus is limited to the Indian online food delivery ecosystem with some global insights, which may affect generalizability.

## **IV. FINDINGS OF THE STUDY**

In cloud kitchens, the lack of physical cues like restaurant ambiance, chef visibility, or staff service means the entire brand experience is mediated digitally. Hence, every small detail—ranging from the visual layout of the app menu to the color and sturdiness of the delivery box—feeds into how consumers assess quality.

The reviewed studies repeatedly show that while taste remains central, non-taste factors like packaging integrity, hygiene seals, temperature maintenance, and speed of delivery are just as influential. For instance, a gourmet biryani arriving lukewarm or leaking from its container may result in a negative review—even if the taste is acceptable.

Interestingly, social media and food review apps have created a feedback loop. Customers now often post unboxing photos, delivery timing screenshots, and even hygiene complaints online. Brands that monitor and respond effectively to such feedback—often using AI-driven review analysis—appear to outperform those who rely solely on traditional complaint channels.

## **V. CONCLUSION AND IMPLICATIONS**

The findings of this review point to a paradigm shift in how food quality is perceived in the delivery-only cloud kitchen space. Businesses operating in this model must treat packaging, presentation, and punctuality as core aspects of quality—not just supporting functions.

From a practical standpoint, cloud kitchen operators should:

- Invest in sustainable, leak-proof, and temperature-resistant packaging.
- Ensure consistent delivery times through partnerships with efficient aggregators.
- Proactively collect and respond to consumer feedback through digital platforms.

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