

# Service Quality affecting Consumer Satisfaction in Pinduoduo Platform

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**Abstract:** We aimed (1) to validate the impact of Pinduoduo customer service on consumer satisfaction, (2) to explore the influence of perceived quality and perceived value on consumer satisfaction with Pinduoduo, and (3) to provide recommendations for stakeholders to enhance customer service quality and guidance for optimizing customer service quality. This research designed a questionnaire to collect data from 442 users. The research reveals the complex relationship between perceived quality and perceived value on consumer satisfaction with PDD. Despite the relatively minor impact of perceived quality, the significant positive influence of perceived value emphasizes its crucial role in the satisfaction enhancement process. Ultimately, we offer targeted recommendations for PDD's stakeholders to enhance customer service quality.

**Keywords:** Consumer Satisfaction; Service Quality; CCSI Model; Perceived Quality

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## 1. Introduction

Pinduoduo is a comprehensive e-commerce platform in China that has rapidly risen to prominence through a unique business model and an operational focus on users in lower-tier cities. Consumer satisfaction originates from the perspectives of management and service, and current research in this area is quite mature (Kang et al., 2020). Consumer satisfaction is a metric that measures the degree of consumer contentment, representing the subjective feelings of consumers based on the comparison between their expectations and actual experiences. Scholars have developed various customer satisfaction models, among which the CCSI model is specifically designed for the Chinese market. It serves as an effective tool for measuring customer service satisfaction, offering significant advantages in assessing customer attitudes toward various aspects of the service experience (Qin & Song, 2022). This model allows for a more comprehensive analysis of factors influencing consumer satisfaction during interactions with customer service. The CCSI model is based on the core architectures of the American Customer Satisfaction Index (ACSI) and the European Customer Satisfaction Index (ECSI). It removes customer complaint variables, considering customers themselves as the subjects of quality evaluation and customer needs as the criteria for quality assessment. The model places a greater emphasis on the relationship between customers' expected quality and perceived quality of products or services. Grönroos defines service quality as the gap between customer expected quality and perceived service quality (Grönroos, 1982). During the consumption process, customers evaluate their satisfaction by comparing the actual perceived service quality with their expectations of the service provided by the service provider. Service quality theory aims to assist the service industry in delivering high-quality services that better meet customer needs. This paper extracts three variables, namely consumer satisfaction, consumer expectations, and perceived value, from satisfaction theory. Additionally, two variables, service quality and consumer perceived quality, are extracted from service quality theory.

## 2. Theoretical Framework and Hypotheses

Building on previous research and combining the foundational theories with the characteristics unique to Pinduoduo, this study has constructed a model of factors influencing consumer satisfaction in Pinduoduo (Lăzăroiu et al., 2020). The model comprises five variables: service quality, consumer expectations, perceived quality, perceived value, and consumer satisfaction. Among them, service quality and consumer expectations serve as independent variables, while perceived quality and perceived value function as mediating variables, and consumer satisfaction is the dependent variable.

Based on the original paths of the CCSI model and in conjunction with satisfaction and service quality theories, the following research

hypotheses are proposed: Customer service quality has a significant positive impact on consumer-perceived quality (H1); Consumer expectations have a significant positive impact on perceived quality (H2); Consumer expectations have a significant positive impact on perceived value (H3); Consumer expectations have a significant positive impact on satisfaction (H4); Consumer-perceived quality has a significant positive impact on perceived value (H5); Consumer-perceived quality has a significant positive impact on satisfaction (H6); Consumer perceived value has a significant positive impact on satisfaction (H7).

### 3. Methodology

The study commenced with formulating model hypotheses, designing scales, and creating questionnaires. Data were collected through social tools such as WeChat, utilizing a quantitative research approach. Statistical analysis methods were employed to process, interpret, and empirically analyze the collected data. The data indicate that the “80s-90s” generation plays a dominant role in the online shopping market, with this demographic exhibiting the greatest potential for online consumption. A consumer report released by Pinduoduo in 2023 reveals that the platform’s user base is primarily concentrated among individuals from the “80s” and “90s” generations. Considering the trends in the distribution of online shopping demographics in China and the characteristics of Pinduoduo users, we chose to investigate Pinduoduo users from the “80s” and “90s” generations. To ensure objectivity, this study employed the Likert five-point scale to assess customer service satisfaction. This method is widely used in various studies due to its simplicity and ease of understanding. Specific variable measurements are detailed.

### 4. Results

The survey data indicates a higher proportion of female users, constituting 61.4%. In terms of age, the majority falls in the 24-28 age range, accounting for 44.8%. Users with a monthly income between 1000 and 2999 yuan are the most prevalent, and the usage frequency is typically once or twice a week. These findings align with the latest research report on Pinduoduo users.

The Cronbach’s Alpha values indicate that the Cronbach’s  $\alpha$  coefficient for service quality is 0.791, exceeding 0.7, and for other dimensions, it is above 0.8. The overall Cronbach’s  $\alpha$  coefficient is 0.882, surpassing 0.8. This suggests that the data exhibits good reliability. The Kaiser-Meyer-Olkin (KMO) measures for each dimension in this study are as follows: service quality 0.826, consumer expectations 0.899, perceived quality 0.874, perceived value 0.728, and consumer satisfaction 0.807. All values exceed 0.7, indicating a relatively consistent correlation among variables, making the data suitable for factor analysis. Additionally, the results of Bartlett’s sphericity test are all below 0.05. Therefore, it confirms the appropriateness of applying factor analysis to this dataset.

Confirmatory factor analysis uses convergent validity, discriminant validity, and model fit indices to determine the reliability of the confirmatory factor analysis model. Typically, factor loadings greater than 0.6 and Composite Reliability (CR) values exceeding 0.7 are considered reasonable. For the Average Variance Extracted (AVE), values are generally expected to be greater than 0.5, or falling within the range of 0.36 to 0.5, which is also considered reasonable (Mueller & Hancock, 2018). In the discriminant validity analysis of this model, the diagonal values (square roots of AVE) for each construct consistently exceed their respective off-diagonal correlations with other constructs. The model indicates a strong discriminant validity among the five constructs: service quality, consumer expectations, perceived quality, perceived value, and consumer satisfaction. This effectively demonstrates that the structures employed in this study are distinct and capture unique variance, which is a critical criterion for assessing the robustness and effectiveness of measurement models in academic research. The results show a  $\chi^2/df$  value of 1.953, an RMSEA value of 0.048, GFI of 0.919, AGFI of 0.898, NFI of 0.908, TLI of 0.945, and CFI of 0.952. These values all meet the reference standards, indicating a good fit between the model and the observed data.

In summary, all the research hypotheses in this study have been validated through path analysis.

### 5. Conclusion

This study takes consumer satisfaction as the focus of research. Considering the actual development of e-commerce platforms in the current socio-economic context of China and based on consumers’ practical experiences in online shopping on e-commerce platforms, the study analyzes the main factors influencing consumer satisfaction on Pinduoduo. Through induction and summarization, targeted recommen-

dations and strategies are proposed, considering the identified issues and practical situations.

The research results validate that the service quality of customer service has a significant positive impact on consumer satisfaction in Pinduoduo. This implies that a high level of customer service can enhance consumer satisfaction and improve their shopping experience. Perceived value and perceived quality have a significant positive impact on consumer satisfaction in Pinduoduo. This finding reinforces the correlation between service quality and satisfaction theory, further confirming the importance consumers place on perceived value and perceived quality in shopping decisions. Consumer expectations also have a significant positive impact on perceived value and satisfaction for Pinduoduo consumers. Our study emphasizes the importance consumers place on having their expectations met and efficient problem resolution, highlighting the significance of various aspects of service quality in enhancing satisfaction.

This study focuses on the impact of service quality, consumer expectations, perceived value, and perceived quality on customer satisfaction in Pinduoduo. Future research directions include delving into age-group differences in customer satisfaction, exploring new characteristics of customer satisfaction in e-commerce platforms in the digital era, expanding sample scope for comprehensive results, optimizing the CCSI model for better applicability, and incorporating qualitative research methods like interviews and focus group discussions to delve deeper into consumer experiences and expectations during service interactions. These expansions aim to provide practical recommendations for e-commerce platform customer service management and advance the theory of service quality and satisfaction.

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