



# Research on Consumer Trust in Social E-commerce in China: A Case Study of Douyin

Zhina Wang <sup>1\*</sup>, Acrapol Nimmolrat <sup>2\*</sup>

College of Arts Media and Technology, Chiang Mai University, Chiang Mai, Thailand

<sup>1</sup>zhina\_w@cmu.ac.th

<sup>2</sup>acrapol@camt.info

**Abstract.** With the rapid development of social e-commerce, consumer trust has become a key factor influencing user purchasing behavior and the sustainable growth of platforms. This study takes Douyin, a leading social e-commerce platform in China, as the research object to explore the construction mechanisms and identification methods of consumer trust. From the perspective of Customer Knowledge Management (CKM), the research integrates text mining, relational trust theory, and the Kano model to propose a systematic analytical approach for identifying trust gaps among users.

This study offers a theoretically guided, data-driven analytical framework for constructing consumer trust based on authentic user feedback. It not only enriches the application path of trust theory in the context of digital commerce but also provides practical guidance for service optimization and user relationship management on social e-commerce platforms.

**Keywords:** Social e-commerce, Consumer trust, Text mining, Customer Knowledge Management (CKM), Relational trust theory, Kano model, Douyin platform, User experience feedback

## 1 Introduction

With the deep integration of social media and e-commerce, social e-commerce has gradually become a mainstream shopping method. In China, the Douyin platform, leveraging the advantages of short video dissemination and a live-streaming-based sales ecosystem, However, as traffic is converted into transactions, issues related to consumer trust have become increasingly prominent, emerging as a key factor restricting the sustainable development of social e-commerce [10]. Previous studies have pointed out that consumer trust in social e-commerce is influenced by multiple factors, including platform responsibility, influencer credibility, authenticity of reviews, and payment security [5][6]. Particularly on platforms where live streaming is the main marketing tool, "trust deficiency" often becomes the root cause of returns, disputes, and negative reviews [7], posing a dual threat to both brand reputation and user retention. Therefore, accurately identifying the key factors affecting consumer

trust and proposing targeted recovery strategies has become a focal point for both academic research and industry practice.

## **2 Literature Review**

This study focuses on the issue of consumer trust on the Douyin social e-commerce platform, adopting the Customer Knowledge Management (CKM) framework as its primary theoretical foundation. It integrates text mining techniques, relational trust theory, and the Kano model to systematically analyze user experience data. This section outlines the core research tools and theoretical pathways employed.

### **2.1 Customer Knowledge Management (CKM) Framework**

Customer Knowledge Management (CKM) is a strategic approach aimed at enhancing customer satisfaction and organizational competitiveness by managing customer-related knowledge. [1] classify CKM into three directional knowledge flows: Knowledge About Customers, Knowledge From Customers and Knowledge For Customers. CKM can be used as a tool for decoding customer knowledge and identifying trust risks in the early stages of customer contact [3].

### **2.2 Relational Trust Theory**

Relational trust theory posits that trust between users and platforms or merchants develops progressively through continuous interaction [10]. This is especially evident in livestream-based social commerce, where social presence significantly affects consumer perception and trust formation [8]. In the context of social e-commerce, trust can be modeled across three dimensions [6]: Competence Trust, Affective Trust and Value Trust. While prior research has emphasized influencer credibility and product authenticity, few studies have investigated the role of the platform itself as a trust intermediary—especially in platform-led e-commerce models, where empirical gaps remain [4].

### **2.3 Text Mining and Consumer Knowledge Extraction**

With the evolution of social media, user-generated reviews and feedback have become key sources of consumer insight. Text mining enables the extraction of keywords, sentiment polarity, and latent themes from vast unstructured datasets and is widely applied in e-commerce user experience studies [2]. In this research, the outcomes of text mining serve as the core data source for the "Knowledge About Customers" component in CKM, enabling the identification of trust gaps and service pain points.

3     **Methodology**

This study is grounded in the theory of Customer Knowledge Management (CKM) and integrates text mining techniques, a three-dimensional trust model, and the Kano model for functional classification. A systematic research process is constructed, encompassing user experience analysis, strategy induction, and satisfaction-based functional categorization.

Text Mining:

To authentically capture consumers' experiential perceptions on the Douyin social e-commerce platform, this study selected Douyin and Zhihu as data sources for user-generated review content. User feedback was manually collected from the comment sections of these platforms, focusing on spontaneous shopping experiences. During the data collection phase, a total of 200 comments were manually extracted by the research team, with priority given to complete statements from highly active users. This ensured that each comment contained a clear positive or negative emotional polarity. After semantic filtering and validity assessment, 157 valid comments were retained, covering various dimensions such as platform services, product quality, payment security, and information transparency. By analyzing the frequency and polarity of emotional terms, the study identified the Top 5 positive themes and Top 5 negative themes, which serve as inputs for trust dimension mapping and Kano questionnaire design in the following steps.

4     **Findings**

This chapter presents the preliminary outcomes from the text mining and questionnaire design stages. It aims to (1) summarize consumer trust issues based on actual user comments, (2) demonstrate the mapping process to trust dimensions. These findings serve as strategic references for future survey implementation and platform optimization and differentiated solutions. Prior studies have shown that trust and service quality jointly shape satisfaction and repurchase intention in Chinese social commerce [9].

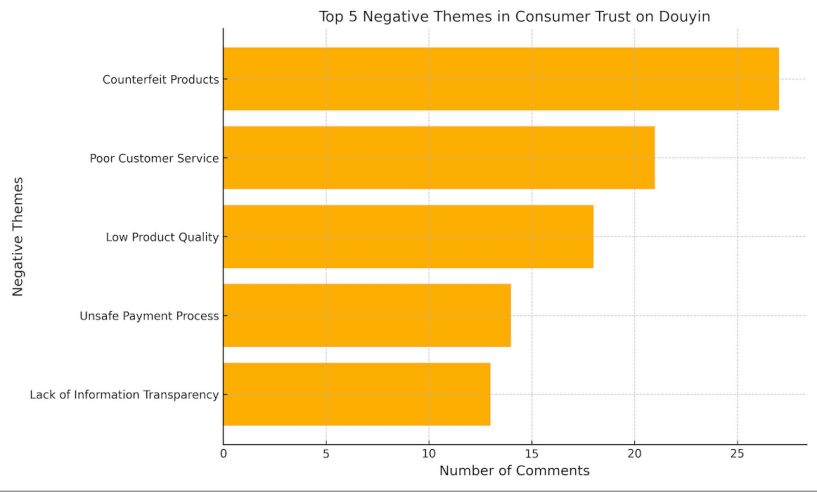
4.1     **Key Findings on Consumer Trust Pain Points**

Through polarity word extraction and thematic classification of 157 valid user comments collected from Douyin and Zhihu, the study identified five representative negative review themes, which reflect the core areas where user trust is currently lacking on the platform. Details are summarized in the table 1 below:

**Table 1.** Top 5 Negative User Review Themes and Frequencies

| No. | Review Theme                     | Related Keywords                       | Module → Submodule         | Frequency |
|-----|----------------------------------|----------------------------------------|----------------------------|-----------|
| 1   | Counterfeit Products             | Fake, deceptive, knock-off             | Product → Quality          | 27        |
| 2   | Poor Customer Service            | Indifferent, perfunctory, evasive      | Platform → Service         | 21        |
| 3   | Low Product Quality              | Easily broken, poor material, terrible | Product → User Experience  | 18        |
| 4   | Unsafe Payment Process           | Payment failure, lack of transparency  | Platform → Payment Process | 14        |
| 5   | Lack of Information Transparency | Irresponsible, hidden information      | Platform → Information     | 13        |

Figure 1 further visualizes the frequency distribution of the five negative themes identified from user comments, providing a clearer comparison of their relative importance.



**Fig. 1.** Distribution of the top 5 negative themes in user comments.

These themes are regarded as user input dimensions for trust structure analysis and serve as the foundation for the next stage of theoretical mapping.

**4.2 Mapping of Themes to Trust Dimensions**

These themes were mapped to three trust dimensions—competence, affective, and value. Figure 2 shows their structured alignment.

| Review Theme                     | Competence Trust                                                            | Affective Trust                                                 | Value Trust                                                                                 |
|----------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Counterfeit Products             | Does the platform have mechanisms for product verification and approval?    | Does it actively respond to user complaints?                    | Does it take action against counterfeiting, hold sellers accountable, and disclose results? |
| Poor Customer Service            | Is there a standardized customer service system?                            | Does customer service show emotional understanding and empathy? | Does the platform take responsibility for customer service outcomes?                        |
| Low Product Quality              | Does the platform provide high-quality suppliers and filtering mechanisms?  | Does it actively handle after-sales and repair services?        | Does it regulate low-quality products and demonstrate a clear stance?                       |
| Unsafe Payment Process           | Does the platform offer secure payment systems and risk control mechanisms? | Does it comfort users in cases of payment issues?               | Does the platform assume risk responsibility and offer compensation mechanisms?             |
| Lack of Information Transparency | Does the platform have an information review and release mechanism?         | Is it willing to proactively explain and respond to users?      | Is it fair and transparent in publicly addressing merchant violations and related issues?   |

Fig. 2. Mapping of Themes to Trust Dimensions

5 Conclusion and Discussion

With the rapid rise of social e-commerce platforms in China, consumer trust has become a critical factor affecting user retention and the sustainable development of platform ecosystems. To address this issue, this study takes Douyin as a case and constructs a research framework integrating Customer Knowledge Management (CKM) theory, text mining techniques, and relationship trust theory. The aim is to identify key consumer trust concerns during the e-commerce experience and to provide theoretical and methodological support for trust-rebuilding mechanisms on such platforms. Future studies may consider identifying platform functions from the perspective of consumer satisfaction, distinguishing between fundamental expectations and enhanced service attributes that influence trust formation. In conclusion, this study not only deepens the theoretical understanding of consumer trust in the context of social e-commerce but also offers a structured, data-informed method for designing platform strategies. It provides practical insights for platform optimization and lays the groundwork for further academic exploration.

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