

# Mechanism of Consumer Brand Advocacy Based on Emotion and Identity: An Analysis from the Perspective of Computational Communication Studies on the Food Safety Crisis of Mixue

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## Abstract

After Mixue was exposed for "overnight ingredients and store hygiene" in March 2025, a "counter-crisis" phenomenon of spontaneous consumer advocacy emerged, which traditional brand crisis theories struggle to explain. Combining social identity theory, emotional communication theory, and computational communication studies methods, this study uses 25,375 comments from 3 core Douyin videos as data, and conducts empirical research through text mining, sentiment analysis, and the LDA (Latent Dirichlet Allocation) topic model. The results show that spontaneous advocacy includes four types of discourse: emotional identification, cost-effectiveness defense, exposure questioning, and humorous meme-based defense. Among these, 71.8% of the comments express positive sentiment, with "grinning face" and "facepalm" emojis appearing frequently. Secondly, this advocacy behavior is driven by three mechanisms: identity recognition (the sinking market categorizes the brand as an "in-group"), emotional communication (anthropomorphism/playful ridicule to defuse criticism), and brand characteristics (low price/affordability/Xue Wang IP's "emotional contract"). Finally, the LDA topic model confirms the synergistic effect between themes such as "family diet analogy" and "brand comparison" and emotional projection.

## Keywords

Mixue; Spontaneous Advocacy; Brand Reputation Damage

## 1. Research Background

Food safety issues have frequently emerged amid the rapid development of China's new-style tea beverage industry. On March 14, 2025, Mixue Bingcheng was exposed for using overnight fruit slices and having hygiene problems in some stores. However, unlike typical public opinion patterns following food safety scandals—

such as those revealed during China's annual "3 • 15 Consumer Rights Day" — this incident triggered a large amount of spontaneous consumer advocacy behavior on social media. Many users actively defended the brand, criticized detractors, and disseminated positive narratives.

Traditional brand crisis theories, such as Situational Crisis Communication Theory (SCCT), are largely organization-centered and tend to overlook consumers' emotional dynamics and spontaneous communication behaviors. Consequently, these theories have limited explanatory power for the phenomenon observed in this case. Therefore, this study introduces an "emotion – identity" perspective and applies computational communication methods — including text mining and sentiment analysis—to analyze social media comments. The study aims to reveal the formation and diffusion mechanisms of spontaneous consumer advocacy behavior and provide insights for brand crisis management and industry governance.

## **2. Literature Review**

### **2.1. Brand Crisis and Consumer Behavior**

Research on brand crises has developed into a relatively mature field. Dawar and Lei first clarified the concept of a "brand crisis," arguing that a crisis can negatively affect a brand through widespread information dissemination[1]. Based on previous studies, a brand crisis can be understood as a situation in which negative information caused by internal or external factors (e.g., environmental changes or operational failures) damages brand image, consumer trust, and even threatens corporate survival.

Coombs was the first to introduce attribution theory into crisis communication research, proposing that consumers' interpretations of the causes of a crisis influence their attitudes and behavioral responses toward organizations[2]. Jorgensen further argued that crisis attribution first affects consumers' emotional attitudes toward firms and subsequently influences behavioral outcomes such as purchase intention and brand relationships[3][4].

Yu Mingyang and Chen Qianyu found that in the new media context, the three dimensions of crisis attribution – source, controllability, and stability – are significantly related to brand attitudes, and the influence of source and stability attribution is stronger during the confirmation stage[5]. In addition, studies by Dawar and Lei and Jing Miao confirmed that brand crises often lead to negative shifts in consumer attitudes and damage brand loyalty[1][6].

### **2.2. Social Identity Theory**

Social Identity Theory was proposed by Tajfel and colleagues in the 1970s. Its core argument is that individuals form in-group identities through social categorization, leading to in-group favoritism and out-group bias while maintaining positive self-esteem through favorable comparisons between groups[7][8].

This theory has important implications for consumer behavior within brand communities. Muniz and O' Guinn proposed that a brand community is a specialized, non-geographically bound community formed by consumers who share admiration for a brand[9][10]. Within such communities, social identity includes three dimensions: cognitive identification (self-categorization), emotional commitment, and evaluative group esteem[11], which can motivate members to display brand-supportive behavioral tendencies[12].

Li Huamin and Li Rong further noted that brand identification positively influences brand loyalty. Consumers with high identification are more likely to actively promote the brand or engage in repeat purchases[13]. Companies can strengthen user loyalty and positive word-of-mouth by cultivating brand communities and enhancing members' sense of belonging. For example, Mixue Bingcheng has shaped a "warm and approachable" brand image through new media communication, laying an emotional foundation for consumers' spontaneous advocacy during crises[14][15].

### **2.3. Computational Communication Research**

Computational communication is a data-driven research paradigm that analyzes digital traces of human communication using computational methods such as text mining, sentiment analysis, and social network analysis[16]. Compared with traditional communication studies, computational communication relies more heavily on big data and algorithmic tools, whereas traditional approaches tend to emphasize qualitative research and small-sample quantitative methods[17].

Computational communication methods can provide empirical support for communication theories. On the one hand, they can test classical theories—such as the two-step flow of communication and the spiral of silence—by examining their boundaries and mechanisms. On the other hand, they can extend theoretical frameworks. For instance, studies suggest that relationships among media agendas can be transferred to public agendas, challenging the traditional linear assumptions of agenda-setting theory[16].

In methodological terms, text mining can extract thematic preferences from user-generated content; Latent Dirichlet Allocation (LDA) models are particularly suitable for topic extraction in social media texts and can efficiently process large-scale documents to identify latent themes[18]. Meanwhile, sentiment analysis techniques can automatically identify emotional orientations—such as positive or negative attitudes—in online comments[19].

Overall, existing studies provide important insights into brand crises and consumer behavior. However, they offer limited explanations for spontaneous consumer advocacy behavior in social media contexts. Therefore, this study integrates social identity theory and emotional communication theory with computational communication methods to explore this phenomenon and provide new perspectives for brand crisis management.

### 3. Driving Mechanisms and Theoretical Hypotheses of Spontaneous Consumer Advocacy

Based on social identity theory, emotional communication theory, and brand characteristic research, this study proposes potential mechanisms that drive consumers to engage in spontaneous advocacy behavior for specific brands.

#### 3.1. Identity Categorization and In-Group Formation

Social identity theory suggests that individuals categorize themselves into social groups, forming in-group identification and distinguishing themselves from out-groups. Thus, clear group positioning is a prerequisite for consumer identity identification. In crisis situations, consumers may reinforce their identity boundaries to defend their group, providing the basis for spontaneous advocacy behavior.

##### Self-Identification with Group Labels

When a brand positions itself as affordable and oriented toward lower-tier markets, consumers within the target demographic may actively identify with that group identity and distinguish themselves from other consumer groups.

##### Brand - Group Association

If a brand's image (e.g., affordability and accessibility) closely matches the life scenarios of its consumers—such as campuses or local communities—consumers may perceive the brand as a symbolic representation of their group.

##### Interest Alignment and Identity Defense

When consumers perceive strong connections between the brand and their personal consumption interests, they may develop the perception that defending the brand equals defending group interests.

#### 3.2. Emotional Communication as a Driver

Emotional communication theory suggests that emotional expressions on social media have strong diffusion potential.

##### Anthropomorphic Projection and Emotional Resonance

Consumers may anthropomorphize brands and transform crisis issues from purely commercial problems into emotional events.

##### Emotional Symbols and Communication Reinforcement

Consumers frequently use emojis and brand nicknames (e.g., “Snow King”) to express positive emotions, which strengthens emotional resonance within the community.

#### 3.3. Brand Characteristics and Emotional Foundations

Brand characteristics serve as the basis of long-term relationships between brands and consumers.

##### Low Price: Value Recognition

Affordable pricing can create an implicit “value-for-money tolerance”

contract, where consumers accept minor flaws in exchange for affordability.

Accessibility: Everyday Life Integration

Through extensive store presence in campuses and communities, brands become embedded in consumers' daily lives.

Warmth: Emotional Personification

Brands that develop IP characters or participate in public welfare activities create emotional bonds with consumers.

### 3.4. Research Hypotheses

Based on the above theoretical framework, this study proposes three core hypotheses:

H1: Consumers develop spontaneous advocacy behavior through identity categorization and in-group identification.

H2: Emotional resonance formed through anthropomorphism and emotional symbols reduces rational criticism during crises.

H3: Brand characteristics such as affordability, accessibility, and warmth strengthen emotional and interest-based ties, thereby driving spontaneous advocacy behavior.

## 4. Research Questions and Methods

### 4.1. Research Questions

On March 14, 2025, after the Douyin account Jingshi Live exposed Mixue Bingcheng's use of overnight ingredients, a large number of supportive comments appeared on the platform. Based on this phenomenon, the study proposes three research questions:

RQ1: What are the linguistic characteristics, emotional tendencies, and expression patterns of spontaneous consumer advocacy behavior?

RQ2: What mechanisms drive such behavior?

RQ2a: Identity mechanisms based on in-group belonging

RQ2b: Emotional mechanisms driven by emotional resonance and symbolic communication

RQ2c: Brand characteristics that create emotional contracts with consumers

RQ3: What are the network structures, clustering patterns, and diffusion paths of advocacy discourse in comment interactions?

### 4.2. Research Methods

This study collected comment data from Douyin videos related to the Mixue Bingcheng crisis posted by three bloggers:

Jingshi Live (March 14, 2025)

Momo Ying (March 16, 2025)

A Ren (March 17, 2025)

The data collection period spans from the release date of each video to April 7, 2025 (18:30). Using a Python RPA framework, comments were scraped and cleaned by removing advertisements and invalid entries. A total of 25,375 valid comments were obtained for analysis.

## 5. Research Findings and Analysis

### 5.1. Expressions and Emotional Tone of Spontaneous Advocacy

#### Overall Comment Characteristics

Comment volume exceeded tens of thousands, with sustained discussion. Most participants were aged 18 - 30, aligning with the main consumer demographics of both Mixue Bingcheng and Douyin.

#### Textual Features

High-frequency words included “lemon,” “overnight,” “Mixue Bingcheng,” and “Snow King,” indicating that discussions often relied on daily life experiences.

#### Sentiment Distribution

Using SnowNLP for sentiment analysis on 23,242 comments, results show:

Positive: 16,694 (71.8%)

Neutral: 6,418 (27.6%)

Negative: 129 (0.6%)

Unlike traditional food safety crises dominated by negative sentiment, this event showed a positive sentiment dominance.

### 5.2. Types of Spontaneous Advocacy

Four main types were identified:

- Emotional Identification - Users defend the brand through personal experiences and identity statements.
- Value-for-Money Defense - Consumers justify minor issues due to the brand’s affordability.
- Exposure Skepticism - Some users question the credibility of the exposure.
- Meme-Based Defense - Humor and internet memes transform the crisis into entertainment.

### 5.3. Three Driving Mechanisms

- Identity Mechanism : Lower-tier market consumers (students and price-sensitive users) play a dominant role in advocacy behavior.
- Emotional Mechanism: The high proportion of positive sentiment forms an “emotional filter” that mitigates negative perceptions.
- Brand Characteristics: The combination of low price, accessibility, and warmth creates a strong emotional contract between consumers and the brand.

## 5.4. Communication Network Features

Spontaneous advocacy discourse spreads through:

- Participatory interactions
- Community-based diffusion
- Key opinion nodes
- Emotional contagion
- High-activity users

## 6. Conclusion and Implications

This study analyzes 25,375 Douyin comments related to the Mixue Bingcheng food safety crisis using computational communication methods. The results reveal four types of spontaneous advocacy behavior and identify three key driving mechanisms: identity recognition, emotional communication, and brand characteristics.

From a theoretical perspective, computational communication methods effectively transform abstract variables such as identity and emotion into measurable indicators.

From a practical perspective:

- Tea beverage brands should strengthen identity- and emotion-based community operations.
- Crisis communication should emphasize **transparency and emotional engagement**.
- Regulators should maintain strict food safety standards while improving regulatory transparency to reduce public resistance.

This study has several limitations:

- Data were collected only from Douyin, limiting cross-platform generalizability.
- Sentiment analysis tools struggle with sarcasm and meme-based expressions.
- The study does not incorporate temporal crisis stages.
- User profiles rely primarily on textual inference.

Future research could incorporate multi-platform data, improve sentiment recognition models, and conduct dynamic analyses based on crisis life cycles.

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