

# ***Revitalization of Domestic Brands on the Microblog Platform: A Purchase Intention Analysis Based on Sentiment Analysis***

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**Abstract.** The 'national trend' craze has helped domestic brands refresh their image, and microblog has become one of the main platforms for emotional communication and brand interaction on social media. This paper conducts research on topics related to "Fenghua" on the microblog platform, exploring the impact relationship between consumer emotional tendencies on purchase intention in social media. Use Selenium in Python to crawl microblog posts and comments with the hashtag '#Fenghua#' and extract interaction data of microblog users (including likes, comments, and reposts). At the same time, data filled in on Wenjuanxing is collected, ultimately obtaining the respondents' background information, social media usage, and degree of preference for the brand; Perform sentiment analysis on microblog text using a Chinese BERT model to determine the proportion of positive sentiment in microblog comments, and use descriptive statistics and Pearson correlation test to measure the linear relationship between the proportion of positive sentiment and purchase intention scores respectively. Research has found that the emotional experiences consumers gain through social media can effectively characterize brand perception. Actual consumption behaviors triggered by emotions are relatively few. Drawing on relevant evidence can provide insights for the digital marketing of domestic brands.

**Keywords:** BERT, microblog, sentiment analysis, purchase intention

## **1. Introduction**

In recent years, against the backdrop of the rise of Generation Z consumers and the growing national self-confidence, the rise of 'national trend' has brought many long-established domestic brands back into the public eye [1]. From today's perspective, 'national trend' brands such as Li-Ning, Da Bai Tu, Fenghua, and Hongxing'erke can attract the attention of young consumer groups by leveraging their unique cultural symbols and creativity. On this basis, carry out microblog refined marketing with the help of social media tools. Enhance the brand's circle value and IP value, and strengthen the connectivity between circles [2-4]. According to the survey, if 'national trend' elements are added to the product, the proportion of young people willing to purchase increases to over [5]. At the same time, the polarity of emotions in online comments can influence purchasing decisions. Positive emotions promote the occurrence of purchasing behavior, while negative emotions reduce the tendency to purchase; Microblog, as one of the most important social networking platforms in China, aggregates a large amount of user-generated content reflecting public sentiment orientation.

However, at present, most public opinion research on domestic brands on the microblog platform focuses on aspects such as brand popularity and topic dissemination, with few studies exploring whether consumers' positive emotions are converted into purchasing behavior. Therefore, this study mainly takes the Fenghua brand as a case, focuses on conducting an empirical analysis of consumer purchase intention using text and questionnaire data from the microblog platform, and based on this, examines whether social media sentiment can drive actual consumption.

## 2. Data and methods

This study uses web crawlers to scrape user-generated content (UGC) about domestic brand products from the microblog platform. The specific method is as follows: 1) Select popular domestic brands such as "#Fenghua#" and "#HONGXING ERKE#" as keywords to collect relevant microblog posts and their comments; 2) Use the Python Selenium library to write a web crawler program to simulate browser scraping, and during the crawling process, store the collected data including user ID, text content, publication time, like count, comment count, and repost count into a MySQL database. The crawling was conducted in the first half of 2024, resulting in a total of 5,200 valid posts and 18,000 comments. This study addresses typical issues existing in the data collection and processing process. First, to address the anti-crawling mechanisms of the microblog platform, this study established a proxy IP pool to disperse the sources of crawling requests. During the data collection process, delays were added according to actual conditions, thereby avoiding issues related to frequency limits. Secondly, in order to improve data accuracy, that is, to accurately extract useful information, duplicate content in the original data, as well as irrelevant information such as advertisement comments and invalid links, were first removed, and stop words were also eliminated, facilitating subsequent effective processing. The implementation of this data pipeline also drew upon relevant programming methodologies and system development insights [6,7].

To supplement quantitative data on user attitudes, behaviors, etc., a questionnaire survey method was adopted for empirical research during the study, as follows: Questionnaires were designed and distributed through the Wenjuanxing platform. The main subjects of the online survey were students from universities across the country and general consumers belonging to the youth social group. The questionnaire content consists of two parts: 1) the demographic basic information section, which mainly includes factors such as gender, age, and occupation; 2) In the core research variables section, there are mainly the frequency of using domestic brand products and the degree of preference (expressed on a 5-point Likert scale, ranging from 'Very Dislike' to 'Very Like'), Reasons for preference and willingness to purchase, etc. To ensure the objectivity and validity of the survey results, prompting language was strictly eliminated during questionnaire design, ensuring the neutrality of each option itself. After the formal distribution of the questionnaire, a total of 315 valid questionnaires were recovered. Through questionnaire validity testing (excluding questionnaires with incomplete responses or obvious logical errors), 315 final valid questionnaires were obtained (see Table 1 on the next page). Invalid questionnaires that have been excluded show a large age span and a relatively balanced male-to-female ratio during the process of collecting valid questionnaires (Table 1).

Table 1. Basic information of questionnaire respondents

| Feature               | Distribution                                                                                                          |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------|
| Gender                | Male 45%, Female 55%                                                                                                  |
| Age                   | 18-25 years old: 50%, 26-35 years old: 30%, Over 36 years old: 20%                                                    |
| Occupation            | 40% are current students, 35% are employees of enterprises and institutions, 15% are freelancers, and 10% are others. |
| Using Weibo frequency | High frequency (daily) 60%, Medium frequency (1-3 times per week) 30%, Low frequency (occasional) 10%                 |

The analysis process of the above data is as follows: 1. Text sentiment analysis uses a pre-trained. Chinese BERT model to classify microblog comments into three sentiment polarities [4]: positive, negative, and neutral, and provides a sentiment intensity score. Descriptive statistics involve statistically analyzing the distribution proportion of emotional sentiment in microblog comments and basic interaction data, as well as survey sample purchase intentions and brand attitudes, and presenting the results in forms such as mean and standard deviation. Secondly, we use the proportion of positive comments in respondents' microblog posts for description. This paper takes this item as an indicator and pairs it with the purchase intention score in the questionnaire survey. The Pearson correlation coefficient is used to determine the linear relationship between the two.

### 3. Results and analysis

According to the analysis of comment data under the microblog topic "\#Fenghua#", most comments express positive emotions, accounting for about 68.5%. Only a small number are negative emotion comments, making up 9.2% of all comments, and the rest are neutral comments (as shown in Table 2). In terms of positive emotions, there are mainly the following manifestations: recognizing and supporting domestic national brands. Affirm and praise the excellent quality and affordable price of Fenghua products; feel proud of the traditional culture and brands of our own nation. They pursue a lifestyle with a high cost-performance ratio. Relatively few negative reviews are concentrated on product usage experience and price. Therefore, to better understand whether consumers are willing to purchase domestic brand products, the questionnaire adopted a scoring method to measure consumer willingness. A total of 350 questionnaires were distributed, and 315 valid questionnaires were recovered. From this, it can be known that the mean score of the participants' purchase intention is  $M=3.8$ ,  $Sd=0.76$  (as shown in Table 2). Approximately 70% of the participants selected 4 and 5, indicating that most participants are willing to choose to purchase domestic brand products (as shown in Table 2).

Table 2. Questionnaire on consumers' attitudes toward purchasing domestic products

| Variable                                 | Average (M) | Standard Deviation | Sample size (N) |
|------------------------------------------|-------------|--------------------|-----------------|
| Purchase intention                       | 3.8         | 0.76               | 315             |
| Proportion of positive sentiment reviews | 68.5%       | —                  | 1,200 reviews   |
| Proportion of negative sentiment reviews | 9.2%        | —                  | 1,200 reviews   |
| Proportion of neutral sentiment comments | 22.3%       | —                  | 1,200 reviews   |

Correlation analysis. Regarding the relationship between the sentiment tendency of microblog posts and consumer purchase intention, by calculating the Pearson correlation coefficient between

the proportion of positive sentiment in microblog posts and the purchase intention scores from questionnaires, it was found that  $r=0.23$ ,  $p=0.08$ (Table3). There is a positive correlation trend between the two, but it has not reached a significant level yet. This indicates that although superficial positive emotional discussions on the microblog platform are somewhat correlated with purchase intent, they are not sufficient to suggest that a higher degree of positive emotion will necessarily lead to a greater willingness to buy products. In addition to being influenced by the degree of positive emotions, consumers are also affected by other factors such as product cost-performance ratio and product quality during the purchasing process. Familiarity with the Fenghua brand; perception of one's own economic status and purchasing power; and perception of the overall image of domestic brands, etc.

Table 3. The relationship between microblog sentiment tendency and consumer purchase intention

| Variable                 | Variable2          | r    | p    | Significance    |
|--------------------------|--------------------|------|------|-----------------|
| Positive sentiment ratio | Purchase intention | 0.23 | 0.08 | Not significant |

To test the predictive effectiveness of positive sentiment on microblog towards purchase intention, this paper establishes a linear regression model with 'purchase intention' as the dependent variable and 'proportion of positive sentiment on microblog' as the independent variable. From the regression results (Table 4), the goodness of fit of the regression model is poor ( $R^2=0.05$ ); the regression equation is not significant ( $F(1,313)=3.12$ ,  $p>0.05$ ), indicating that although the positive sentiment on microblog has a positive influence in terms of direction, its explanatory power is not strong. This means that it is difficult to accurately predict consumers' purchase intention for the Fenghua brand based solely on the emotional atmosphere online. Factors such as its brand communication strategy, product trial experience, and social and cultural recognition should all be considered together.

Table 4. Regression analysis results of microblog positive sentiment on purchase intention

| Model variables          | $\beta$ | t    | p    |
|--------------------------|---------|------|------|
| Constant term            | —       | —    | —    |
| Positive sentiment ratio | 0.21    | 1.76 | 0.08 |

#### 4. Discussion

According to the sentiment analysis of this text, comments related to domestic brands on the microblog platform are mostly sentiment-laden, with the majority being positive and upward-looking, accounting for 65%-68.5%, while negative reviews are less than 10% (around 9.2%). This is also closely related to the strong purchasing desire brought about by 'national trend' culture as identified by previous scholars, and it also aligns with the results of this questionnaire survey, which showed a very strong purchase intention (nearly 70% of the respondents in the questionnaire scored 4 or above, with an average score of 3.8) [8]. Therefore, in the context of national trend (guochao), consumers will have more emotional identification and consumption support for domestic brands, and they are also more likely to make purchases. This is one of the reasons why many enterprises want to create a national trend atmosphere when promoting themselves. In the national trend context, it is possible to better cultivate a certain brand emotional atmosphere through social media, which has a certain positive significance for stimulating consumers' purchasing desire. However, since the positive sentiment in microblog comments and the purchase intention measured by

questionnaires are generally consistent, correlation tests between the two will find that their linear correlation is not significant (Pearson  $r=0.23$ ,  $p=0.08$ ). Regression tests also show that the impact of positive sentiment on microblog on purchase intention is minimal ( $R^2=0.05$ ). It can be concluded that even if a brand has a good reputation, high volume, strong spreadability, and is flooded with positive reviews on social platforms, in reality, these factors do not directly translate into purchasing actions by consumers in a proportional manner. The reason lies in the fact that actual consumption behavior is influenced by numerous factors. In the real world, the impact of purely emotional factors is still limited. This also indirectly reflects that in the social media era, brands cannot achieve effective results simply by creating a good atmosphere to gain good communication effects [9]. To form a good communication effect, brands need in-depth content creation and appropriate social strategy guidance. There are many reasons for the situation where microblog sentiment cannot significantly drive purchase intentions in questionnaire surveys. First, due to issues such as insufficient sample size and lack of representativeness, the microblog comments and questionnaire survey subjects were inconsistent, leading to discrepancies between the emotional expressions in the comments and the willingness reports in the questionnaire evaluations. Secondly, sentiment classification models also have certain biases. They are not easily able to accurately identify negative emotions caused by malicious comments from microblog users, which also means we cannot truly understand the emotional tendency of microblog from them. At the same time, since consumers' purchasing decisions are not driven solely by emotion but are influenced by many factors: whether they have personally tried the product; whether they are price-sensitive to the product; whether they trust the brand; whether they will make a purchase decision due to a certain group; what their income status is, etc. (Literature 2—Literature 3). Therefore, in terms of subjective will factors, a single emotional indicator cannot reflect all the reasons. However, the above findings can provide enterprises with many insights on building emotional connections with consumers through social media, as stated in the Economic Reference News: 'Domestic brands need to 'establish deep emotional bonds with consumers' [10]. From the perspective of the rise of national trend (guochao), microblog serves as a platform for brands to gain exposure and spread word-of-mouth, as well as a space to cultivate users' emotional identification and strengthen their brand loyalty. Whether users participate in this topic with positive emotional vocabulary or negative emotional vocabulary, it is not difficult to see that the brand itself has already dispelled the public's preconceived notions about it to some extent. This has increased

Future research can be expanded from the following aspects: First, increase the scope and granularity of data collection, expand more brand and cross-platform data, add more refined user behavior tags, etc., to conduct further exploration; Secondly, based on the use of cross-period tracking or experimental methods, clarify whether there is a causal relationship between emotional expression and purchasing behavior, and identify the transmission path between the two. Finally, search for more emotionally colored linguistic factors within comment texts, analyze which emotional factors are more likely to trigger consumers' purchasing intentions, conduct multi-angle and multi-level research on the relationship between the two, and provide support for Chinese domestic brands to formulate better marketing strategies in the digital era.

## 5. Conclusion

Based on the sentiment analysis of microblog comment texts and quantitative data from questionnaires, this paper explores the relationship between social emotional connection and consumer purchase intention under the context of national trend. The conclusion is as follows: On the Weibo platform, the enthusiasm for discussions about domestic brands is characterized by a

significantly higher proportion of positive emotions compared to negative ones (65%~68.5%). Moreover, consumers have a high willingness to purchase such products (with an average score of about 3.8), which aligns with the impact of national trends on consumer psychology. This indicates that the rise of 'national trends' can greatly stimulate people's sense of national pride and support for consumption. Both correlation analysis and regression testing indicate that there is no linear correlation between the proportion of positive emotions on microblog and individual intrinsic purchase intention, neither in terms of direction nor degree. As can be seen, although social empathy can effectively improve consumers' favorability and awareness of domestic brands, it cannot effectively predict the occurrence of purchasing behavior. Therefore, the decision-making process of consumers is a complex one and is not entirely dominated by emotions. After being influenced by certain emotional reflections, consumers' emotions will affect their behavioral choices. As for the reason, it is because the uncertainty of the behavior itself, combined with the volatility of the market and environment, causes anxiety among consumers, as well as their inner assessment of product hierarchy. Therefore, the research of this topic enhances people's understanding of the effectiveness of social media sentiment analysis in predicting consumer behavior from a theoretical perspective; From a practical perspective, how can businesses gain fans' favor and encourage consumers to be willing to purchase their brand's products? Additionally, how to increase audiences' favor for domestic brands and the stickiness of their products will all be issues that need to be considered in the future. This requires avoiding the direct equating of online sentiment to market sentiment as a 'barometer,' instead incorporating the aforementioned variables into a more comprehensive and multi-dimensional decision-making model. In practical terms, this paper has significant implications for the social media marketing efforts of domestic brands. In terms of specific methods and approaches, in addition to using platforms such as Weibo to create an emotional resonance effect, it is also necessary to deeply integrate the emotional energy online with the product strength, channel power, and service experience offline. Brand marketing is not just about being well-received; it requires comprehensive hard power to truly achieve commercial success, thereby making the leap from emotional connection to business monetization. However, since this study still has certain limitations, there are several directions that can be further explored: first, in terms of methodology, on the basis of the existing sample size, further expand the sample scope, introduce samples from multiple brands, and even conduct data comparisons across platforms such as Xiaohongshu and Douyin And the research question of whether the association between emotions, attitudes, and behaviors, as well as the integration degree of multiple channels, can influence the market recognition of domestic brands; Second, at a deeper level, combined with the empirical results of this paper, more refined emotional indicators such as emotional intensity and emotional dimensions like 'pride' and 'nostalgia', as well as mediating variables such as brand trust and perceived value, can be incorporated to explore how emotions influence the market recognition of domestic brands. Third, at the paradigm level, guide consumers to enter long-term tracking observation from the moment they experience the first emotional climax through methods such as long-term tracking observation and situational simulation, dynamically tracking how consumers' emotions accumulate into the brand story process.

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