

An Exploration of the Influence of Emotional and Rational Cues on Consumer Purchasing Behavior in Online Reviews

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Abstract: *This paper takes the textual features of online reviews as the research object, collects online shopping users' tendency to pay attention to the features when browsing the reviews before making online shopping decisions through questionnaires for empirical research, constructs a conceptual framework, and explores the influence of emotional cues and rational cues on consumers' purchasing behaviors in online reviews. The results show that both cues in positive comments have a significant positive effect on positive perceived quality, and the effect of emotional cues is more significant; both cues in negative comments have a significant positive effect on negative perceived quality, and the effect of rational cues is more significant; the positive perceived quality brought by positive comments has a certain effect on high purchasing behaviors, and the negative perceived quality due to negative comments has a certain effect on low purchasing behaviors and negative reviews and the negative perceived quality caused by them have a more significant impact. Based on the results, this paper suggests that enterprises should screen key reviews, identify strengths and weaknesses, pay attention to negative reviews, focus on the management of product perceived quality, improve the user feedback system, and enhance consumer satisfaction.*

Keywords: *Online reviews; Emotional cues; Rational cues; Purchasing behavior; Empirical research*

1. Introduction

The rapid development of science and technology as well as the continuous improvement of people's living standards have enabled consumers to share their own evaluation information about the experience, performance, and quality of relevant services and products with the general public on online platforms by means of video, pictures, audio, text, and other forms. It has been shown that the more details such as arguments and reasons are included in user-generated reviews, the more comprehensive the information provided in the reviews, the more helpful consumers will find them, and the textual reviews may be helpful in promoting users' consumption behaviors [1]. Although the development of text processing technology has allowed scholars to gradually begin to pay attention to review content mining, the information value implicit in review text has still not been fully explored due to computational complexity, cost and time constraints [2].

Currently, in terms of text mining, researchers mainly study the length of review text, product attributes and text emotion, but less research is conducted specifically on the review text features on consumer purchasing behavior, which does not constitute a complete and mature system, and the results of the research are inconsistent. However, due to the great value of the information contained in the text, it is still of great research significance. Especially the combination of product attributes and textual emotions, the two types of review cues play different roles in the theoretical model of purchase behavior.

Therefore, this paper applies the method of empirical analysis, combines the previous literature basis, respectively explores the formation of emotional and rational cues on perceived quality in positive and negative reviews in online reviews, and the path of the influence of perceived quality on purchasing behavior, and expects to make corresponding additions to the mechanism of the influence of the review text features on consumers' purchasing behavior.

2. Literature Review and Research Hypotheses

2.1 Stimulus–Organism–Response-Based View

The Stimulus-Organism-Response (SOR) Model explains that several external aspects can act as a stimulus which influences a person's internal state, referring to the organism, which will result to certain behavioral response [3]. The SOR model is well accepted and used model by research on studying the behavioral context of a consumer on retail buying [4]. According to the above theory, different types of cues in the reviews that consumers browse before online shopping are external stimuli, and this stimulus generates corresponding perceived quality in the consumer organism, which in turn affects the consumer's purchase behavior. Therefore, the SOR model can be extended as a research framework between emotional cues and rational cues in reviews and consumer purchase behavior.

2.2 Online Reviews

In 2008, scholars in the field of marketing proposed in their research that positive and negative evaluations expressed by consumers of products and services on online platforms are online reviews. Product quality can be categorized into objective quality, which refers to the level of quality based on functional features such as design and safety, and subjective quality, which reflects the manufacturer's perspective on product quality. The former refers to the quality level based on functional characteristics such as design and safety, reflecting the quality of products from the producer's perspective. The latter refers to the quality perception of products established by consumers based on cues such as product brands, market reputation and purchasing experience, reflecting the quality of products from the consumer's perspective [5]. In this paper, emotional cues are subjective quality, emotionally charged words in reviews, such as "so cool" in positive reviews and "very angry" in negative reviews. Rational cues are objective quality, the evaluation of specific product attributes, such as "affordable", "accurate size", "good mileage" in positive reviews and "poor fabric" in negative reviews. "

2.3 Perceived Quality

Perceived quality is often defined as "one of the key drivers of evaluative judgments about product quality" Holbrook and Corfman define perceived quality as having three components: (1) an evaluative preference or judgment; and (2) the outcome of an interaction between a product and a consumer. Quality judgments are formed by individual consumers for a particular product, and the characteristics of a product may vary among consumers; and (3) the concept of relative consumer experience [6]. Therefore, this paper explains perceived quality as the consumer's impression and value judgment of a product.

2.4 Purchasing Behavior

In the 1960s, the scholar Nicosia first proposed the "Nicosia model", from which the term "consumer purchasing behavior" arose and was interpreted as "purchasing behavior for non-resale purposes". The term "consumer purchasing behavior" emerged and was interpreted as "purchasing behavior for non-resale purposes". Subsequently, the American Association of Marketing Agencies (AMA) gave a new definition of "consumer purchasing behavior" in 2000: behavior in the form and for the purpose of fulfilling the function of transaction, which is carried out around the dynamic interaction of multiple factors such as feelings, perceptions, environments and behaviors.

2.5 Online Reviews and Perceived Quality

Research has proved that online reviews play a huge role in consumers' purchasing decisions and have become an important component of many companies' online development strategies. Cao argued that the sentiment conveyed by the content of the review positively affects the usefulness of the review; some scholars have calculated the sentiment total to reflect the magnitude of the review's sentiment intensity, proving that the sentiment intensity positively affects the usefulness of the review, and that this effect is more effective for search-oriented products. products is more effective [7]. Liu and Park suggest that the textual information and embedded features contained in the content of reviews may help explain the usefulness of reviews [8]. Sun extracted the feature information of product and platform dimensions based on review text content to study the effect of dimensional attribute information on the usefulness of searchable product reviews, and the study shows that the number of attributes and the average length of attributes in the product and platform dimensions have an effect on the usefulness of online reviews

[9]. Therefore, in the context of the increasing importance of online word-of-mouth, consumers tend to browse the reviews and then make acceptance assessment and trust adoption of the information content, at the same time, according to the different features of the review text, the adoption of rational cues and emotional cues in the positive and negative reviews is also different, and will affect the different perceived qualities formed by them. Therefore, this paper makes the following hypotheses:

Hypothesis 1: Both emotional and rational cues positively influence positive perceived quality in positive online reviews.

Hypothesis 2: Both emotional and rational cues positively influence the quality of negative perceptions in negative online reviews.

2.6 Perceived Quality and Buying Behavior

In 2006, Philip Kotler, the "father of modern marketing", divided consumer purchasing behavior into five stages, and this theoretical model is still highly applicable to the current online shopping environment. Before consumers implement online shopping behavior, they will form a basic knowledge of the overall quality of goods, logistics efficiency, service level, etc., that is, perceived quality. After receiving the online shopping goods and completing the purchase behavior, consumers will also post their own experience in the form of online comments to the relevant platform boards, which will help other consumers in their purchase decisions and evaluation of perception. At this point, the comment system and decision-making closed loop constructed by the consumer group is gradually formed [10]. According to the theoretical model, consumers will make purchase decisions only after comprehensively evaluating the perceived quality of the product, so consumers browse the positive and negative reviews to generate perceived quality, external stimuli are transformed into internal cognition, which significantly affects their consumer behavior, so this paper makes the following assumptions based on this foundation (See Figure 1):

Hypothesis 3: Perceived quality positively influences consumer buying behavior.

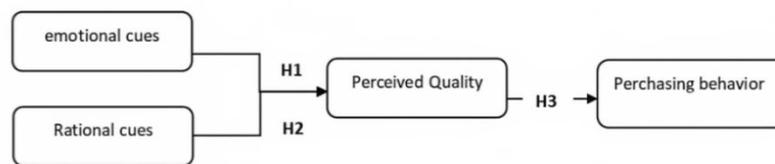


Figure 1: The Model of an Exploration of the Influence of Emotional and Rational Cues on Consumer Purchasing Behavior in Online Reviews

3. Questionnaire Design and Data Statistics

3.1 Collection of the Questionnaire Data

The design of the research questionnaire in this paper refers to the measurement dimensions of previous scholars and was developed with modifications based on the specifics of this study. The main part of the questionnaire utilizes a 5-point Likert scale to measure the independent and dependent variables of the study. Data collection using online research, a total of 101 questionnaires recovered, in the recovered questionnaires, there are eight investigators do not read the comments when shopping online, so it is an invalid questionnaire, the validity of the questionnaire is 92%. Of the 93 samples in this survey, the proportion of men accounted for 32.26%, women accounted for 67.74%; the age distribution of the investigators is mainly concentrated in the 18-35 years old, accounting for 92.47%; in the distribution of education, undergraduate/specialized population accounted for 88.17%; the average number of times of online shopping per month is more than 3-10 times, accounting for 59.14%, followed by 10-20 times, accounting for about 18.28%. It shows that online shopping has become an important shopping method for contemporary people, especially young people. Meanwhile, only 8 people in the 103 initial samples do not read the comments in online shopping, which indicates that browsing the comments is an important part of online shopping decision-making, and the content of the comments has a greater impact on the online purchasing behavior.

3.2 Reliability Analysis and Validity Analysis

The Cronbach’s alpha value of this study is 0.846, which is higher than 0.8, thus indicating a good level of reliability of the study data. Regarding the "CITC value", the CITC values of the analyzed items are all higher than 0.4, which indicates that there is a good correlation between the analyzed items, and also indicates that the reliability level is good; The tests show that the KMO value in the test results records $0.72 > 0.6$, and the sig value is 0, which is less than 0.001, implying that the research data has passed the validity test. For further validity-tests, factor analysis has been conducted on the items of these three dimensions. Three representative factors are extracted through factor analysis, the rotated squares plus the load of the three factors is more than 70%, which makes the questionnaire easily explicable.

3.3 Correlation Analysis

According to the research hypothesis, this paper mainly explores the correlation between emotional cues, rational cues and perceived quality, as well as the correlation between perceived quality and purchasing behavior. The data results show that the correlation coefficients are between 0.4 and 0.7, so all variables have a significant moderate-positive-correlation ($p < 0.01$). This means that both emotional cues and rational cues have a strong correlation with perceived quality in both positive and negative reviews, but emotional cues play a dominant role in positive reviews, while rational cues play a dominant role in negative reviews; and in the study of the correlation between perceived quality brought by the reviews and purchasing behaviors, the negative reviews and the negative perceived quality they cause have a greater impact on purchasing behaviors.

3.4 Linear Regression Analysis

Linear regression analysis was carried out and the model R-squared values were valid and the fit was acceptable. The F-test was passed and the regression coefficients were significantly different from zero. The test for multicollinearity of the model found that all the VIF values in the model are less than 5, implying that there is no problem of covariance. The final summary analysis can be seen:

Perceptual and rational cues in positive comments will have a significant positive influence relationship on positive perceived quality, and emotional cues contribute more to positive perceived quality (emotional cues $\text{Beta}=0.616 >$ rational cues $\text{Beta}=0.324$). Hypothesis 1 is supported.

Perceptual and rational cues in negative comments will have a significant positive relationship on negative perceived quality, and rational cues will contribute more to negative perceived quality (emotional cues $\text{Beta}=0.347 <$ Rational Cues $\text{Beta}=0.523$). Hypothesis 2 is supported.

Positive perceived quality due to positive reviews has an effect on high purchasing behavior and negative perceived quality due to negative reviews has an effect on low purchasing behavior, i.e., perceived quality positively influences consumers' purchasing behavior, and negative reviews and the negative perceived quality they bring have a stronger effect on low purchasing behavior (Positive Review $\text{Beta} = 0.274 <$ Negative Review $\text{Beta} = 0.497$). Hypothesis 3 is supported (See Table 1).

Table 1: Results of linear regression analysis of perceptual and rational cues in positive reviews on perceived quality of positive products

| | Non-standardized coefficient | | Standardized coefficient | t | P | VIF | R ² | Adjustment of R ² | F |
|---------------------------|------------------------------|----------------|--------------------------|-------|----------|-------|----------------|------------------------------|------------------------|
| | B | standard error | Beta | | | | | | |
| a constant (math.) | 0.619 | 0.368 | - | 1.682 | 0.096* | - | 0.558 | 0.548 | f=56.874 p=0.000*** |
| emotional cues | 0.49 | 0.057 | 0.616 | 8.644 | 0.000*** | 1.035 | | | |
| Rational cues | 0.375 | 0.082 | 0.324 | 4.552 | 0.000*** | 1.035 | | | |

Note: *** $p < 0.001$, ** $p < 0.05$, * $p < 0.01$

4. Conclusions and Implications

4.1 Conclusions of the Study

Focusing on online review features, this study establishes a conceptual framework for the influence of rational and emotional cues in online review texts on consumer behavior, and validates the investigation through empirical research. The results show that emotional and rational cues in positive reviews have a significant positive influence on positive perceived quality, and emotional cues contribute more to positive perceived quality; emotional and rational cues in negative reviews have a significant positive influence on negative perceived quality, and rational cues contribute more to negative perceived quality; positive perceived quality due to positive reviews has a significant positive influence on high purchasing behavior; negative perceived quality due to negative reviews has a significant negative influence on high purchasing behavior; and negative perceived quality due to negative reviews has a significant positive influence on high purchasing behavior. And the negative perceived quality due to negative comments has a certain effect on low purchase behavior, i.e., perceived quality positively influences consumer purchase behavior, and negative comments and the negative perceived quality they bring have a stronger effect on low purchase behavior.

4.2 Practical Insights

Screening key reviews is essential to identify strengths and weaknesses. With the rapid development of online shopping, review content has become increasingly varied. Producers and merchants need to filter key reviews for their feedback systems, pinpointing aspects of the reviews that consumers care about the most. For positive reviews, it's important to focus on the emotional aspects of consumer evaluations, highlighting the product's advantages. This can be used to shape marketing and promotional strategies that appeal to potential consumers. Conversely, negative reviews should be scrutinized for the specific issues consumers raise, using this feedback to continuously improve and enhance product quality.

Focus on negative reviews and perceived quality management. Negative reviews are extremely detrimental to the perceived quality of a product and can greatly reduce consumers' willingness to buy compared to the limited increase in willingness to buy of positive reviews; therefore, producers should improve their products based on negative reviews to enhance consumer satisfaction, and businessmen should take effective remedial measures to retain consumers after the negative impacts of their products have appeared.

Enhancing consumer satisfaction through an improved user feedback system is crucial. The user feedback system represents a virtuous cycle of continuous problem identification and resolution from both the demand and supply sides. Users are motivated to provide feedback only if their issues are addressed effectively. This process enables enterprises to continuously optimize their products, maintaining market competitiveness. In today's increasingly abundant marketplace, it's essential for enterprises to capture and address the real needs of consumers in order to remain unbeatable.

5. Research Limitations

Online review text features and consumption behavior is a complex process, in which various influencing factors do not present a single linear relationship. Although this study has constructed a conceptual framework for online review text features and consumption behavior, it is only a simple and preliminary construction and validation, in which the conceptual framework is more specific and rich in influencing factors to be explored.

In addition, this study is limited by spatial and temporal factors, and the sample data are regionally limited and age-concentrated, so the scope of the study and the conclusions are limited and do not have generalized significance. In the future, more interviews can be conducted in more regions and with more evenly distributed age groups to explore in greater depth the relationship between the emotional and rational cues contained in the comments of different groups on online shopping and the influence of these cues on their consumption behaviors.

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