

## **Research on Online Reviews' Emotional Tendency and Perceived Usefulness: A Moderated Mediating**

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**Abstract:** *As one of the important forms of online WOM in a network environment, online reviews represents the subjective consumer feelings that consumers post after shopping. To avoid the loss caused by mistakes in decision-making, online reviews with different emotions become one of the important sources of information for consumers before making purchase decisions. Starting from the emotional tendency of online reviews, this study, on the basis of previous studies, further explores how it influences the perceived usefulness and purchase intention of consumers under the moderating effect of consumers' ambivalence attitude and consumption motivation. The results show that the positive and negative emotional tendency intensity of online reviews may positively affect consumers' perceived usefulness. Perceived usefulness may mediate the relationship between online reviews' emotional tendency and consumer purchase intention. Besides, consumers' motivation and ambivalence attitude may have a moderating effect on the relationship between online reviews' emotional tendency and perceived usefulness. Therefore, this is of great significance to pay more attention to consumer psychology and effectively manage and analyze online reviews.*

**Keywords:** *Online reviews' emotional tendency, Perceived usefulness, Purchase intention, Consumption motivation, Ambivalence attitude.*

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### **I. INTRODUCTION**

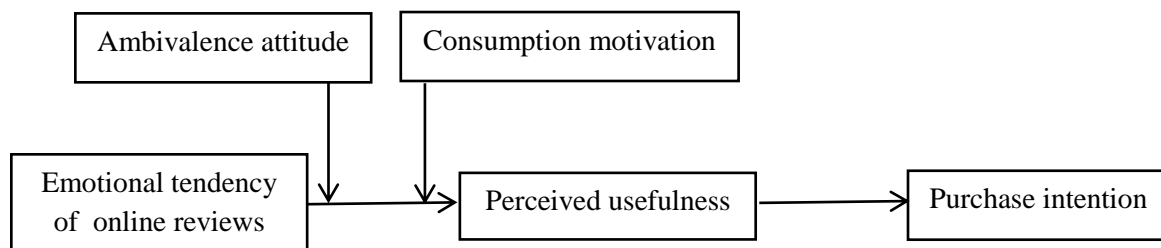
The development of network information technology has driven the development of the e-commerce industry. Online shopping silently changes the traditional shopping mode, and the consumer behavior mode undergoes a fundamental change. Different from physical shopping, in online shopping, it is difficult for consumers to directly understand the various features of the product through their senses. Thus, online reviews of other people become an important reference for consumers to understand the image of the product. According to a survey conducted by the China Internet Network Information Center(CNNIC), online reviews become the most concerning factor in users' online shopping decisions, accounting for 77.5%. In other words, online reviews are an important way for consumers to obtain product-related information, which will affect consumers' perceived value of products (Korfiatis, 2012)<sup>[1]</sup>. Podium's research in 2017 shows that 93% of online shopping consumers express that online reviews have an impact on their shopping choices, helping consumers to reduce the uncertainty of commodity information in the context of online shopping so as to make more reasonable shopping decisions (Lu et al., 2018)<sup>[2]</sup>.

In terms of the characteristics of information, the information contained in online reviews has both cognitive characteristics (rational characteristics) and emotional characteristics (perceptual characteristics) (Yap et al., 2013)<sup>[3]</sup>. Cognitive characteristics are information about the attributes of goods or services, while emotional characteristics, mainly refer to the emotional intensity, emotional polarity, language style, vividness, and other emotional information expressed in online reviews. Based on this, the emotional characteristics of online reviews reflect the emotional tendency of the reviewers towards the purchased goods or services, which often enable consumers to perceive more accurate information about products or services. Research on the online reviews' emotional tendency and the psychological perception path behind its influence on consumers' decision-making will help merchants to better understand consumers' needs and guide online comment tendency to positively influence consumers' purchasing behavior. In addition, it can also help consumers to obtain

valuable information from comments with different emotional tendencies from a more objective perspective and then make more rational purchase decisions.

However, it is common that differences in individual characteristics of consumers will lead to different influences on their information judgment and processing which affects the degree of information acquisition, decoding, and involvement of the same thing with positive and negative evaluation, then the ambivalent attitude will emerge. The appearance of ambivalence is often accompanied by a strong sense of uncertainty for consumers, which will induce them to believe that they cannot make the right decisions (Bee & Madrigal, 2013)<sup>[4]</sup>. Different levels of contradictory attitudes will also cause consumers to have different information processing methods, and in turn affects the degree of information's influence on consumers' perception (Zemborain et al., 2007)<sup>[5]</sup>.

In fact, research on the impact of online reviews on consumer behavior has only emerged recently. In 2011, Chatterjee first proposed the concept of "online reviews"<sup>[6]</sup>. On this basis, scholars began to conduct research on online reviews. In the past, research on online reviews often started from multiple aspects, which can be divided into the following aspects: the characteristics of online reviews themselves, the characteristics of reviewers, and the characteristics of recipients. By contrast, previous studies on online reviews focus on the influence of the quantity and quality of reviews on consumers' purchasing decisions, while research on the online reviews' emotional tendency rarely explores the psychological perception path behind their impact on consumers' decisions. Therefore, based on literature research, combined with Attribution Theory and Elaboration Likelihood Model(ELM), this study is to explore the impact of online reviews' emotional tendency on consumers' perceived usefulness and purchase intention, with ambivalence and consumer motivation as moderators. The research framework of this paper is as follows:



**Figure 1: Research Framework**

## **II. LITERATURE REVIEWS AND RESEARCH ANALYSIS**

### **1. Theoretical background**

#### **1.1 Attribution theory**

In the early days, concerning the connotation of attribution theory and the categories of problems it can solve, the most representative figures are Fritz Heider's interpersonal perception theory and Bernard Weiner's motivation attribution theory. Attribution theory is first proposed by Fritz Heider (1958) in his book "Interpersonal Relations Psychology" which mainly focuses on how people analyze what they do in their daily life, and advocates that the information obtained by the actors and the behavior they produce will have a significant impact on people's causal attribution<sup>[7]</sup>. Fritz Heider (1958) thinks that everyone's behavior has a certain reason, which is either the objective reason of the external environment or the subjective reason of the individual. Attribution is the speculation and description of these reasons. And for the same event, due to the different attribution orientations of different people, different prediction results will be produced for the behavior of the attributed objects.

In essence, online reviews is persuasive information, but in previous studies, information can influence the audience's attribution to the motivation of information formation. According to attribution theory, a person will attribute the responsibility of negative events, and then produce emotional reactions that will help them promote their future behavior. In the previous literature research on word of mouth, attribution theory is often used to make the theoretical basis for investigating the factors that affect the function of word of mouth (Sen &

Lerman, 2007<sup>[8]</sup>; Chen & Lurie, 2013<sup>[9]</sup>). Generally speaking, previous studies have confirmed that when the motivation of publishing comments is attributed to external environmental factors, comments will gain more trust from consumers; When the motivation of publishing comments is attributed to the personal subjective factors of commentators, consumers will question the authenticity and usefulness of comments, which will lead to the neglect of comments; Moreover, some studies believe that the reason why negative comments have stronger influence than positive comments is that negative comments are more likely to be attributed to productive factors than positive comments. Therefore, to understand the function of negative comments, attribution theory is a very suitable theory.

In the field of marketing, attribution theory is often used as the theoretical basis by scholars in the research on influencing factors for various marketing means to exert a persuasion effect (Goldsmith & Horowitz, 2006)<sup>[10]</sup>. In fact, online reviews have the characteristics of massiveness and anonymity, and it is difficult for consumers to judge the authenticity and credibility of the reviews (Park et al., 2007)<sup>[11]</sup>, which leads to ambivalent attitudes. Therefore, in order to help their own judgment, consumers will generate more collection behavior and attribute the motivation of comments and their sentiment polarity. This kind of behavior ultimately affects consumers' perceptual system and consumption tendency (Chen et al., 2013)<sup>[12]</sup>. The results of consumers' attribution to reviews information are diverse. In the research of Sen et al. (2007)<sup>[13]</sup> point out that consumers attribute negative comments to factors related to the product itself, while the attribution of positive comments is more likely to personal factors of the reviewers. The fact, however, is that reviews information is complex rather than a single emotional tendency. Hence, it is worth studying how consumers' ambivalence plays a role in emotional tendency, perceived usefulness and purchase intention of online reviews.

## **1.2 Elaboration Likelihood Model(ELM)**

The ELM (Exploration Likelihood Model) is generally called the Detailed Possibility Model and the Fine Machining Possibility Model by researchers. The model originated from social psychology research, which was first proposed by American psychologists Petty and Cacioppo (1986) to discuss the change process of individual attitude in the process of persuasion. and then was used as a persuasion model, which was widely used in the research of attitude, social communication and consumer behavior. ELM theory model holds that people's attitude changes through the Central Route and the Peripheral Route respectively. Among them, the central path deals with the arguments related to the message, which requires the information receiver to invest a lot of energy to consider and understand it, and even needs to integrate several contradictory arguments to make a whole judgment. On the contrary, the edge path deals with some suggestive information, which is far less than the former in energy cognition. The perception attitude caused by the central path is more stable and lasting than the edge path. Information receiver's choice of processing path depends on exhaustive possibility. The dimensions of exhaustive possibility are divided into Involvement and self-efficacy. Involvement, that is, the motivation of the information receiver, if the information is important to the receiver and has strong relevance, then it is very possible for them to invest a lot of energy to deal with it. Self-efficacy refers to the ability to process information, which is determined by the information receiver's mastery of relevant knowledge. Therefore, when consumers' Involvement and self-efficacy are also high, they are more likely to take the central path to process information, that is, to make consumption decisions after careful consideration of information. When Involvement men and self-efficacy are low, consumers are more inclined to process information according to the peripheral information of products.

Petty and Cacioppo (1983) believe that when consumers are exposed to persuasive information, they follow different persuasive routes to form perception in line with their motivation and ability differences. The process of both types of routes is emotion and cognition (Chapman, 2015)<sup>[14]</sup>. Cognition is usually based on the objective evaluation and understanding of the characteristics of the target object, which is greatly affected by the personal ability and knowledge level; sentiment is an evaluation of events formed according to people's feelings and values, which is more influenced by the situation stimulus. Whether it is cognitive or emotional routes, they all determine the degree of involvement of the influencing factors due to the consumers' motivation towards the product (Park et al., 2007). Consumers with strong demand motivation tend to process the content of the comment information rationally, in other words, it will be processed comprehensively by the objective cognition and personal knowledge reserve; else, it tends to process the content of the reviews information sensibly, which

means that the content of the reviews information will be processed by the context perception, emotional arousal or personal value. Therefore, based on the refined processing possibility model (ELM), this study focuses on the impact of online reviews' emotional tendency on the perceived usefulness and purchase intention of potential consumers and adds consumer motivation to study whether it acts as a moderation in the relationship between them.

## **2 Online reviews' emotional tendency and perceived usefulness**

As for the relationship between online reviews and perceived usefulness, most of the researches focus on the features of comments. Ghose and Iperiotis (2011) shows that the readability, informativeness and subjectivity of the reviews' language can, to a certain extent, affect the readers' perception of the usefulness of the reviews<sup>[15]</sup>. Wu et.al. (2016) find that the emotional polarities of online reviews have a significant positive impact on perceived usefulness<sup>20</sup> below. However, what is the vacancy of the existing researches is that how online reviews with mixed positive and negative emotional trends and different emotional strengths affect consumers' perception of usefulness and the process of their purchase decisions. From the perspective of online reviews on emotional tendency, therefore, we explore its influence mechanism on consumers' perceived usefulness and its psychological path.

Consumer emotion is the emotional response of consumers based on their perception of the characteristics of purchased goods or services. However, it is common for online comments to have opposite emotional tendencies, which will change consumers' attitudes and perceptions. According to the attribution theory, consumers' attribution to the reviews information affect their judgment on the perceived usefulness of the reviews (Sen et al., 2007)<sup>13</sup> above. Compared with positive reviews, negative reviews have greater influence on consumers' purchase decisions than positive reviews since they represent poor product quality, service quality or logistics speed (Cavazza et al., 2008)<sup>[16]</sup>. Hence, consumers are more willing to attribute the difference of emotional tendency on online reviews to product factors, and believe that such reviews have higher perceived usefulness. Based on this, this study proposes that the positive and negative emotional tendency intensity of online reviews may positively affect consumers' perceived usefulness.

## **3 Online reviews' emotional tendency, perceived usefulness and consumers' purchase intention**

Amid a boom of online shopping, reviewers actively display their previous shopping experiences on websites or platforms in the form of online reviews. By reading online reviews, consumers subjectively weigh the advantages and disadvantages of the reviews information on their purchase decisions, and then apply perception to their consumption behavior. The magnitude of the impact is perceived usefulness (Huang et al., 2009)<sup>[17]</sup>. At home and abroad, researchers in the field of marketing recently involve how the perceived usefulness of online reviews affects consumers' purchasing intentions. Research by Lee et al. (2008) reveals that when consumers perceive that a certain sales channel is more useful for product information search, they will increase the frequency of information search and purchase products more frequently<sup>[18]</sup>. Moore (2015) identifies that perceived usefulness, under the joint influence of comment quality and other factors, has an impact on consumers' willingness to use, and even on purchase intention<sup>[19]</sup>. Generally speaking, commentators are more inclined to express their post-purchase feelings with strong emotional color and great attention, which will bring intuitive and deep impression to consumers and help them make more reasonable judgments. The more useful consumers' perception of online comments, the more likely they are to adopt online comments. Therefore, this study suggests that consumers' perceived usefulness after reading online reviews may positively affect their purchase intention.

However, previous studies on the relationship between online reviews' emotional tendency, perceived usefulness and purchase intention are limited to other aspects of online reviews rather than their emotional tendency. Wu et al. (2019) show that consumers' perceived usefulness of comments mediates between multiple dimensions of online reviews (readability, timeliness, etc.) and purchase behavior intention<sup>[20]</sup>. Research by Ventre and Kolbe (2020) disclose that perceived usefulness is a partial mediator between the quantity and quality of online reviews and purchase intention<sup>[21]</sup>.

In fact, the effect of human perception on behavior is a process of interpersonal mentalization, which is an automatic reflexive process. As the positive and negative information contained in online comments

stimulate the neural organization in a certain area of the brain during their reading process, consumers have formed their own judgment on the usefulness of information (Zettle et al., 2016)<sup>5</sup> above. The higher the emotional intensity of online reviews information, the higher consumers' trust will be, which means that their perceived usefulness to reviews will change accordingly. The perceived usefulness of information directly affects the acceptance and adoption of information. Studies show that in the process of selecting and judging information, people give priority to the information they perceive that may contribute to solving problems (Purnawirawan et al., 2012)<sup>[22]</sup>. In online shopping, the higher the emotional intensity of online reviews, the higher the consumers' trust evaluation and perceived usefulness in information, thus improving the impact of information adoption and purchase intention. Eventually, it leads to an increase in consumers' information adoption and purchase intention. Combined with the assumptions and analysis above, this study suggests that perceived usefulness may mediate the relationship between online reviews' emotional tendency and consumer purchase intention.

#### **4 Ambivalent attitude**

The traditional research on attitude holds a unified view that consumers only like or do not like a certain product or service (Kaplan, 1972)<sup>[23]</sup>. Until the modern era, there is a viewpoint which is quite different from before. Priedter et al. (2001) suggests that there is a diversity of ambivalent attitudes, with both positive and negative comments. Zemborain et al. (2007) also put forward the same view<sup>5</sup> above.

Previous researches mainly focus on the intensity of ambivalence, consumption attitude and behavior. An extensive body of literature shows that the contradiction of attitudes has an impact on the relationship between consumer perception and behavior (Popp, 2010)<sup>[24]</sup>. Jonas (2000) points out that consumers with ambivalent attitudes in decision-making are not uncertain enough about the correctness of their decisions, which leads to the instability of consumer perception and behavior<sup>[25]</sup>. When consumers with a high level of ambivalent attitudes read online reviews, which have contradictory (positive and negative) emotional tendencies, the mixed emotional comments will interfere with their judgment of commodity information. In other words, it may cause consumers to suspect that the product or service itself does not conform to the description given by the merchant, which will eventually affect their perceived usefulness of the product (Shi et al., 2018)<sup>[26]</sup>. The higher consumers' ambivalence, the more likely they are to delay the purchase. Instead, they collect more information to eliminate this emotional conflict. On the contrary, consumers with low contradictory attitudes are less hesitant and uncertain, so they are relatively easier to make judgments about the target product. In an environment where information is available, consumers with low ambivalence are more capable of diagnosing the usefulness of online reviews than those who are high. Based on this, this study proposes that consumers' ambivalent attitudes may have a moderating effect on the relationship between online reviews' emotional tendency and perceived usefulness.

#### **5 Consumption motivation**

According to the research of social psychology and biology, people selectively perceive, encode and retain information consistent with their expectations in the process of motivation shaping cognition (Litchfield, 2008)<sup>[27]</sup>. Consumers' motivation affects the way they process information, which determines their attention and adoption of other consumers' online comments (i.e., the psychological process of "focusing on others") in online shopping. This process urges consumers with internal demand motivation to form a perception of the effectiveness of information (Mohrman et al., 2011)<sup>[28]</sup>. Grant and Berry (2011) find that the relationship between internal motivation and perception is affected by the adjustment of individual psychological process, and the acquisition and analysis of relevant views can promote the formation of individuals own independent cognition<sup>[29]</sup>.

The Elaboration Likelihood Model indicates the degree of involvement in the impact factors is determined by the consumers' motivation for products, which gives rise to affecting their choice of information processing methods. Consumers with stronger purchasing motives often have their own unique understanding of products or services. They are more likely to identify the usefulness of information so that they can make decisions quickly. Additionally, in order to reduce the discomfort and uncertainty caused by negative comments, they are inclined to focus on the essence of information, so as to form their own perception basis and decision-

making judgment. Inversely, consumers with weaker demand motivation tend to be more willing to learn (Mitchell and Dacin, 1996)<sup>[30]</sup>, and are subject to the emotional color of comments. Their irrational preference for the product or service makes them care more about the appearance of the differences between the positive and negative comments than the comments themselves. From the perspective of psychological cognitive pathways, consumers with different motivations also have different sensitivity to the perceived usefulness of online reviews. Given that, this study suggests that consumers' motivation may have a moderating effect on the relationship between online reviews' emotional tendency and perceived usefulness.

### **III. RESEARCH METHODOLOGY**

The research literature and comprehensive analysis are adopted as the main research approach in this paper. The main sources of literature are Databases such as CNKI, Wanfang, Emerald and Web of Science. We have reviewed a large amount of literature in the fields of online reviews, ambivalence, perceived usefulness and purchase intention to explore and demonstrate the relationship between the proposed variables. The explanations and arguments of this study are supported by empirical evidence and relevant theories which are described in the following sections.

### **IV. CONCLUSION**

Regarding the relationship between online reviews' emotional tendency, perceived usefulness and consumers' purchase intention, this study concludes as follows: The perceived usefulness of consumers to reviews is to a large extent positively affected by the polarity of the emotional tendency of information. The online reviews' emotional tendency often shows the reviewers' positive or negative emotional experience of the product. By decoding the language color of the online reviews information, it will affect consumers' perception of the usefulness of the information. Besides, people's perceived usefulness of the information they are exposed to tends to positively influence the degree of information's impact on the behavioral decision. Therefore, it is highly likely that perceived usefulness plays a mediating role in the relationship between online reviews' emotional tendency and consumers' purchase intention.

Regarding the moderating effect of ambivalent attitude and consumption motivation, this article concludes as follows: Both ambivalent attitude and consumption motivation have a moderating effect on the relationship between emotional tendency and perceived usefulness of online reviews. The first is about ambivalent attitude. High-level ambivalence will weaken the influence of online reviews' emotional tendency on consumers' perceived usefulness, and vice versa. Consumers with high ambivalent attitudes tend to have difficulty in judging the correctness of information due to low confidence, which leads to the instability of their perception of the usefulness of comments. Furthermore, in terms of consumption motivation, strong motivation will reduce the impact of online reviews' emotional tendency on the perceived usefulness of consumers, and vice versa. Motivated consumers, which means that they have a high demand intensity, in order to interpret information quickly and accurately, often take the initiative to collect and decode product information so as to judge the usefulness of information with their own perception basis.

### **V. SIGNIFICANCE**

Last but not least, this study has profound theoretical significance. There is an extensive body of research focusing on the usefulness of online reviews, but their concerns are scattered and their conclusions are far different, which seriously affects the guiding role of research results on practice. As one of the basic features of online reviews, the emotional tendency has an important impact on consumers' perceived usefulness of reviews. However, scholars have no consistent understanding of this issue. Some of them claim that consumers think positive reviews are more useful, while the other is the opposite. This study constructs a research framework on online reviews' emotional tendency, perceived usefulness and consumers' purchase intention. It's an innovation that starting from consumer psychological characteristics (consumer contradictory attitudes and consumption motivation) as a moderating variable. This article explores how online reviews with mixed positive and negative tendencies and different emotional intensities influence consumers' purchasing intentions through their perceived usefulness. On the one hand, this study attempts to reconcile some contradictions in the existing research conclusions. On the other hand, it also provides a theoretical framework for follow-up related studies.

Moreover, this study expands the scope and boundary of research related to online reviews, enriches research in the fields of marketing management, ambivalence theory, and consumer behavior and points out the direction for future research.

The conclusions of this study will also have important practical implications for the e-commerce industry. The conclusions of this study can provide a theoretical basis for decision-makers of e-commerce companies in the process of commenting system management and improvement. First of all, in terms of enterprises, this paper can help them to grasp the characteristics of online reviews, clarify the concerns of consumers, and make them understand how the online reviews' emotional tendency affects consumer decisions. Hence, this research helps e-commerce companies pay attention to manage comments especially for different emotional tendencies. In addition, an in-depth understanding in the decoding and utilization process of consumers' online reviews information is of great significance for companies to optimize online reviews management. To some extent, the difference in the quality of the same product or service leads to different consumer perceptions. After purchasing or using a product/service, consumers post their comments on an online platform, which can affect other potential consumers. This is a normal phenomenon. This study enables companies to realize that consumers' evaluation for product or service is multifaceted, and consumer ambivalence and motivation are important factors that cause consumer perception bias. Thus, when facing consumers, they can understand how consumers' attitudes change and what the impact of demand motivation is. This is very helpful for them to suit the remedy to the case in the course of commenting system management.

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### **Conflict of Interest**

There was no conflict of interest.

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