

Are Longer and More Negative Online Reviews More Helpful? - The Mediating Role of Consumers' Perceived Usefulness of Reviews

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Abstract

Purpose - This study investigates how review length and sentiment impact consumers' purchase intentions, using real online reviews as the data source. The study aims to understand how the length and tone of a review affect a potential buyer's decision-making process when considering a purchase.

Design/methodology/approach - A 2 (comment length: long vs. short) × 2 (comment sentiment: positive vs. negative) × 2 (product type: practical vs. hedonic) experiment was conducted.

Findings - Results indicate that longer reviews have a greater impact on consumers' perceived usefulness compared to short reviews, but do not affect purchase intentions. Review sentiment is found to have a stronger impact than review length, especially for negative sentiment. The study also suggests that consumers pay more attention to reviews of practical products, and that reviews have less influence on hedonic products.

Research implications or Originality - The implications of these findings are relevant for both merchants managing reviews and consumers reviewing products. The results of this research could help businesses and marketers optimize their online review strategies to maximize their impact on consumer behavior.

Keywords: Online Reviews; Perceived Review Usefulness; Product Type; Purchase Intention

JEL Classifications: C30, M30, M31

I. Introduction

The rise of online shopping has led to increased attention on the factors that influence consumer decision-making (Hu, Liu, & Zhang, 2008; Zhen Liu, Lei, Guo, & Zhou, 2020). Online reviews have emerged as an important form of electronic word-of-mouth (e-WOM) (Tsao, Hsieh, Shih, & Lin, 2015). Compared to traditional word-of-mouth, online reviews offer a vast amount of information, are widely available, and are often anonymous (Decker & Trusov, 2010). As such, they are a critical reference for companies seeking to make marketing and product design decisions (Floh, Koller, & Zauner, 2013; Godes & Mayzlin, 2004) and have been shown to significantly impact consumer decision-making.

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While online reviews are known to influence consumer behavior, their impact is also influenced by a variety of factors. These factors can be broadly categorized as 1) the credibility of the review source, such as the credibility of the website or the expertise of the reviewer, 2) the characteristics of the reviewed product, such as brand image or price (Langan, Besharat, & Varki, 2017), and 3) the characteristics of the review recipient, such as their level of expertise or previous purchase experience (Basuroy, Chatterjee, & Ravid, 2003; Godes & Mayzlin, 2004). Additionally, 4) the characteristics of the online review itself, such as the quality and quantity of reviews, are also important factors (Floh et al., 2013; Hu et al., 2008). Product type is also considered to be an influential factor. For example, Lee and Choi (2022) divided products into “skill-based” and “artwork-based” categories based on consumer perceptions and found that consumers are less likely to purchase artwork-based products if they don't see positive reviews from others. Du Xuemei, Zhihong, and Lifang (2016) divided products into “search products” and “experience products” based on consumer ability to obtain product quality information before purchase and found that consumers engage in less search behavior for experience products, thereby reducing the influence of online reviews.

Numerous studies have shown that online reviews have become an increasingly popular and important channel for obtaining product information. As research deepens, scholars are more inclined to view the influence of online reviews on individual purchase decisions as a process of review information processing (Geng-Feng et al., 2016). However, there is still controversy regarding the factors that play a greater role in this process.

Firstly, most studies suggest that longer reviews are more appealing to consumers than shorter ones (Chevalier & Mayzlin, 2006). However, research such as Fink, Rosenfeld, and Ravid (2018) has shown that excessively long reviews can overload readers' cognitive capacity, triggering consumer resistance and making them more likely to ignore them.

Secondly, some studies suggest that extreme positive reviews attract more attention and enhance perceived usefulness (Vermeulen & Seegers, 2009), while others suggest that extreme negative reviews are considered more authentic and useful (Sparks & Browning, 2011). Additionally, some studies indicate that consumers are more likely to trust neutral reviews (Miao & Xu, 2018).

Given these debates, this study aims to explore the impact of review length and sentiment on individual purchase decisions and the mediating role of perceived review usefulness. Although previous studies have examined this question, no definitive answer has yet emerged. Therefore, this study uses an experimental approach, which can control for extraneous variables and produce more accurate results. Moreover, the study tests different types of products to ensure the reliability and repeatability of the findings, providing new evidence for the study of the effects of review length and sentiment on consumers' purchase intentions.

II. The Theoretical Background and Hypothesis

1. Characteristics of Online Reviews and Consumer Perception

Previous studies have laid the groundwork for understanding the relationship between online reviews and consumers' purchasing decisions. The theoretical model of information adoption,

proposed by Sussman and Siegal (2003), is particularly relevant. This model highlights the importance of information quality, including the factors that contribute to high-quality reviews, in shaping consumer perceptions. Only useful information is likely to be adopted. As a result, the effectiveness of electronic word-of-mouth (e-WOM) depends largely on the content of the message, including its valence (positive or negative sentiment).

Williamson (1979)'s transaction cost economics theory suggests that higher levels of uncertainty lead to greater transaction costs. In online product transactions, incomplete product descriptions can result in significant uncertainty for consumers, leading to information asymmetry (Du Xuemei et al., 2016). To reduce this uncertainty and increase their desire to buy, consumers turn to online reviews to learn more about product use and functionality (Langan et al., 2017).

Blal and Sturman (2014) 's research supports the idea that the quantity of online reviews has a greater impact on consumers. Meanwhile, Walther, Liang, Ganster, Wohn, and Emington (2012) found that longer online reviews contain more detailed product information and can have a greater impact on consumer behavior. As a result, the large number of reviews available online can provide consumers with a wealth of information, and longer reviews can be especially influential in shaping their perceptions and purchase intentions.

However, Schroder, Driver, and Streufert (1967)'s information processing theory suggests that people's ability to process information follows a typical curve, where the use of information declines after reaching the optimal cognitive load point (Driver & Mock, 1975). Fink et al. (2018) demonstrated that excessive reviews can increase consumers' cognitive load and have a negative impact on their perception. Additionally, Kwok and Xie (2016) research found that there is a negative correlation between the number of sentences in reviews and the usefulness of reviews perceived by consumers. Moreover, online reviews can be manipulated by operators who add positive reviews to their own products and negative reviews to competitors, leading to distorted reviews (Zhiwei Liu & Park, 2015) that can mislead consumers.

Studies have also explored how the number and length of online reviews influence consumer behavior. Park and Lee (2008)'s experimental study confirmed the positive effect of the number of online reviews on purchase intention, suggesting that the sheer volume of reviews can attract consumers' attention to the product and lead to purchase behavior. Kuan, Hui, Prasarnphanich, and Lai (2015) found that longer reviews can occupy more screen space and more easily attract consumers' attention. Furthermore, with the advancement of technology, researchers are applying cognitive neuroscience techniques such as eye-tracking to online review research. Tang and Song (2020) 's eye-tracking experimental study demonstrated that reviews that provide objective, rational, and specific product information are more likely to attract consumers' attention than reviews that express subjective feelings and personal experiences.

Previous studies have demonstrated the impact of online reviews on consumer behavior. However, the definition of comment length remains a subject of controversy. In this study, comment length is defined by participants' subjective feelings to circumvent disagreements over its measurement. Long reviews may contain more information and details that can improve consumer knowledge and understanding of the product. Therefore, long reviews may be considered more useful than short reviews, thereby increasing consumers' purchase intentions for the product. In addition, long reviews may also express consumers' deeper emotions to some extent, thus having a greater impact on consumers' purchase intentions. Based on this, we propose the following assumptions:

Hypothesis 1: Compared with short reviews, long reviews have a stronger impact on the usefulness of consumers' reviews and their desire to buy.

The sentiment of reviews is another important factor that has attracted research attention besides the length of the review. However, the impact of positive and negative product reviews, known as review valence, has yielded conflicting results in the literature. The sentiment of a review refers to the reviewer's positive or negative emotion toward the product, which is reflected in the review content. Positive and negative words in reviews typically reflect the experiences of consumers. Most studies agree that the sentiment of reviews is significantly related to their usefulness. Research by Singh et al. (2017) and Ren and Hong (2019) suggests that positive emotional feedback reflects the product's advantages, which can significantly affect consumers' perception and even influence their purchase decisions (Vermeulen & Seegers, 2009).

Other studies suggest that extreme negative reviews can trigger consumers' risk awareness, leading to a reduced desire to buy (Sparks, So, & Bradley, 2016). Consumers are more likely to be influenced by negative reviews, especially when the overall reviews are predominantly negative (Sparks & Browning, 2011). Some studies also argue that positive reviews are often disregarded by consumers, whereas moderate and negative reviews are considered more authentic and useful. However, Miao and Xu (2018) proposed, based on attribution theory, that extreme ratings deviate from the average score and are more likely to be attributed to non-product factors. Therefore, consumers are more inclined to believe in neutral evaluations. Firstly, this study posits that online reviews are often mixed with false reviews, and consumers are cautious in trusting them (Zhang & Yang, 2019). As many businesses intentionally manipulate positive reviews, negative reviews can have a stronger impact on consumers than positive reviews. Secondly, negative reviews often identify the flaws and deficiencies of products or services, whereas positive reviews may simply express compliments or gratitude. Hence, consumers may be more inclined to negative reviews to gain a better understanding of the true situation. Negative reviews may arouse the attention and interest of consumers because they can provide information about problems or defects of the product, which is valuable to consumers. In addition, consumers may perceive people who post negative reviews as more sincere and honest, as they may perceive these reviews as more objective and authoritative. Therefore, relative to positive reviews, negative reviews may have a greater impact on consumers' purchase intentions and improve their assessment of the perceived usefulness of reviews. Based on these observations, we formulate the following assumptions:

Hypothesis 2: Negative reviews have a greater impact on consumers' perceived usefulness of reviews and desire to purchase compared to positive reviews.

When consumers are considering purchasing a product or service, they are often confronted with a significant amount of information, including product features, pricing, and brand reputation. This complexity can cause uncertainty and confusion for consumers, creating doubts and risks. To mitigate these uncertainties and risks, consumers often seek out various sources of information to increase their knowledge and understanding of the product or service. Reviews are a common source of information that provide consumers with supplements and

assistance in understanding products or services.

Research has shown that consumers tend to search for a large number of reviews before making a purchase, particularly for products with higher prices or uncertain brand reputation. Reviews play a crucial role in consumer decision-making. According to the uncertainty reduction theory proposed by Berger and Calabrese (1974), consumers actively search for various information to minimize the risk of uncertainty. Reviews are a real-time, rich, and varied source of information that can convey consumers' actual experiences, meeting consumers' needs for information and risk reduction.

Under certain conditions, consumers' purchase intentions can be transformed into actual purchase behaviors. The consumer's purchase intention refers to their tendency to take a particular action, which is the prerequisite for actual purchase behavior. Perception is a critical factor when consumers make purchasing decisions, and their perception of a product can have a decisive impact on their purchase behavior (Bamberg, Ajzen, & Schmidt, 2003; Park & Lee, 2008). Therefore, this study hypothesizes that the perceived usefulness of reviews acts as a link between review characteristics and consumers' purchase intentions. In other words, consumers' perception of the usefulness of reviews can affect their purchase decisions and intentions. Perceived review usefulness may have an impact on the relationship between review characteristics (length and sentiment) and consumers' purchase intention. If reviews are perceived as useful, then review characteristics may have a greater impact on purchase intention. In addition, perceived usefulness of reviews may affect consumers' purchase intentions, as consumers may be more inclined to make purchasing decisions based on reviews if reviews are perceived as useful. Therefore, perceived usefulness of reviews may mediate between review characteristics and consumers' purchase intention. Thus, our hypothesis is:

Hypothesis 3: The perceived usefulness of online reviews mediates the relationship between review characteristics (length and sentiment) and consumers' purchase intentions.

2. Product Type and Purchase Intention

A study on consumer purchasing behavior has found that different product types can affect consumers' purchase intention in different ways (Floh et al., 2013; Singh et al., 2017). For example, in the restaurant industry, online ratings have been shown to have a positive impact on consumers' willingness to purchase, whereas in the hospitality industry, review valence has shown conflicting results. This discrepancy may be due to different product types.

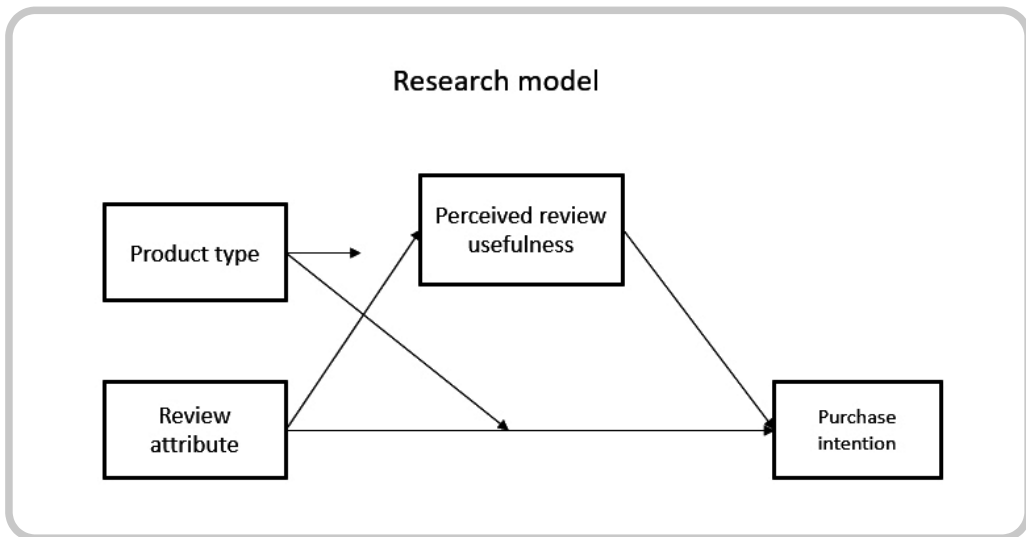
A recent study (Lee and Choi 2022) divides products into two categories: artwork and functional products. The research shows that when consumers have a favorable opinion of a product, such as a work of art, reviews have little effect on their willingness to purchase. Additionally, the price of the product is considered as a moderating factor, with different prices having different impacts on consumers' purchase intentions (Yun, Ro, Kwon, & Jahng, 2022).

Other studies have divided products into hedonic and utility products (Cho Jong-wan, Yu Ju-hee, & Im Soo-bin, 2022). Hedonic goods are intended to satisfy a consumer's desire for pleasure and are usually non-essential goods, while utility goods are tools that consumers use to achieve their own goals or accomplish practical tasks. When purchasing hedonic goods,

individuals are more inclined to personalize their choices, representing an emotional decision, while the decision to purchase a utilitarian product is primarily driven by cognition, with consumers aiming to accomplish their own goals or complete practical tasks.

Based on this research, it can be hypothesized that when purchasing hedonic products, consumers pay more attention to the uniqueness and personalized choices of the product, so the impact of reviews is relatively small. When purchasing practical products, however, consumers pay more attention to the functionality of the product, so the impact of reviews is relatively large. Different types of products may influence consumers' perceptions of online reviews. For example, consumers may be more inclined to look for practical information related to the product when purchasing practical products, and may be more inclined to seek perceptual information related to the product when purchasing entertainment products. Thus, product type may affect the impact of review characteristics (length and sentiment) on perceived review usefulness and purchase intention. For consumers who purchase utilitarian products, the impact of review functionality on perceived review usefulness and purchase intention may be enhanced. Therefore, review characteristics may have a greater impact on perceived review usefulness and purchase intention when purchasing utilitarian products.

Hypothesis 4: Product type mediates between review characteristics (length and sentiment) and perceived review usefulness and purchase intention. The impact of review features on perceived review usefulness and purchase intention is enhanced when purchasing a utility.



The Research Model presented above displays the independent variable as the feature of the comment, which is divided into two parts: the length and sentiment of the comment. The dependent variable is the consumer's purchase intention. Additionally, consumers' perceived usefulness of reviews is used as a mediator variable in the model. Finally, the product type serves as a moderating variable, which is divided into two categories: hedonic products and practical products.

III. Methodolog

1. Reviews Filtering

Experiment 1 and Experiment 2 utilized sports shoes and paper novels as the respective research objects. These products were selected due to their prevalence in online review studies (Floh et al., 2013). For each experiment, 20 reviews were selected from a shopping website, adhering to specific criteria such as the absence of pictures, videos, and brand/price information. The selection process also aimed to minimize interference from external factors such as the product and reviewer information.

To ensure the representativeness of the selected reviews, three postgraduates preliminarily evaluated the reviews based on length and emotional tendency. The reviews were then divided into four groups: long and positive, long and negative, short and positive, and short and negative. The three highest-scoring reviews from each group were chosen for the experiment. Each set of reviews was rated for length and sentiment by the participants. If the judgments of the experimental participants matched those of the graduate students, the reviews underwent further analysis and processing. If not, the reviews were re-selected.

To simulate a real-world scenario, participants were asked to imagine themselves using a website to purchase a product and then browse the reviews presented to them. By controlling the respondent's demand for the product in this way, the study aimed to minimize potential biases. Short reviews were assigned a value of 1, while long reviews were assigned a value of 2. Positive reviews were assigned a value of 1, while negative reviews were assigned a value of 2.

2. Experiment 1

2.1. Pre-test

Participants were presented with four sets of reviews in turn, and after each set of reviews, participants were asked to answer the length of the reviews, their emotional orientation, and the main question. The pre-test was conducted on 136 participants before formally answering relevant questions on a 7-point Likert scale (1 "strongly disagree" to 7 "strongly agree"). Most of the participants were between 20 and 40 (accounting for 64.2%), and 52.2% were women. The first question was whether they had experience in online shopping for shoes, and the two experimenters who had no relevant experience were excluded. Secondly, participants were asked to answer whether they need to refer to reviews when shopping online. Finally, participants answered the question about product attributes "Do you think the spiritual value (pleasure) that this product brings to you is greater than its practical value." ($M_{\text{product Attribute}} = 2.40$, $SD_{\text{Product Attribute}} = 1.12$). Participants generally felt the need to refer to reviews (Mean=5.19, SD=1.815). The length and sentiment of each set of reviews were rated by the participants themselves, and the results were consistent with the grouping of graduate students ($M_{\text{longer, positive}} = 5.74, 5.07$; $M_{\text{longer, negative}} = 5.23, 2.50$; $M_{\text{shorter, positive}} = 2.72, 4.16$; $M_{\text{shorter, negative}} = 2.92, 2.62$).

2.2. Main Measurements

The majority of participants were students, housewives, and company employees, with 69% having received education above high school. Review usefulness ($\alpha = 0.91$, $M = 4.97$, $SD = 1.24$) was measured using 5 items adapted from Park and Lee (2008) and Park, Lee, and Han (2007): “Reviews are reliable”, “Reviews are detailed”, “Reviews are closely related to product features”, “Reviews are of high quality and informative”, and “Reviews can help me understand the product better”. Desire to buy ($\alpha=0.76$, $M=3.6$, $SD=1.78$) was assessed using three items adapted from the research designs of Park et al. (2007) and Yanhui, Zongwei, and Yicheng (2017): “Decided to buy this pair of shoes”, “Priority on this pair of shoes”, and “High probability of buying these shoes”.

The results of exploratory factor analysis indicated that the questionnaire had a good fit index, with a KMO of 0.82, approximate chi-square of 2522.06, and rotational sum squared loading of 74.708. The factor loads of each item are presented in the (Table 1).

Table 1. Results of Exploratory Factor Analysis (1)

Question	Factor 1	Factor 2
Online consumer reviews are useful to me.	.821	
Online consumer reviews make purchasing easier	.885	
Online consumer reviews make me a smarter shopper	.872	
Online consumer reviews are very beneficial to me	.874	
Online consumer reviews allow me to understand product information	.868	
How likely is it that you will buy this products		.898
I would give priority to these products		.905
There is a good chance that I will buy these products		.877
Principal Component Analysis, Varimax with Kaiser Normalization		

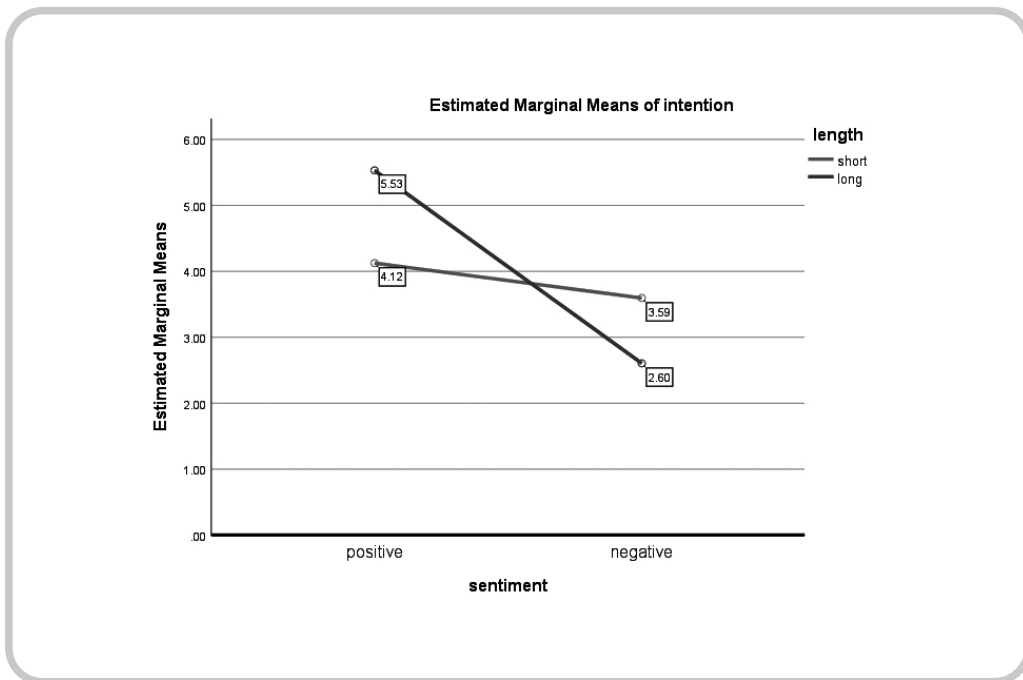
2.3. Experimental Results and Discussion

In Experiment 1, a between-group design with a 2 (review length: long vs. short) \times 2 (review sentiment: positive vs. negative) binary was used to analyze the relationship between purchase intention and perceived usefulness of reviews, with multivariate analysis of variance as the statistical method. The results of the variance analysis (refer to (Table 2)) show that there is no significant relationship between the length of online reviews and purchase intention, $F(1, 532) = 2.68$, $P > 0.05$. However, there is a significant relationship between review usefulness, $F(1, 532) = 58.831$, $P < 0.01$, and the hypothesis 1 was rejected. On the other hand, the relationship between review sentiment and review usefulness $F(1, 532) = 61.469$, $P < 0.01$ and purchase intention $F(1, 532) = 185.612$, $P < 0.01$ is significant, supporting hypothesis 2. The interaction results of review length and review sentiment ((Table 2), (Figure 1)) demonstrate that review characteristics have an impact on consumers' purchase intention [$F(1, 532) = 89.218$, $P < 0.001$].

Table 2. Variance Analysis

	Dependent variable	Type III sum of squares	Degrees of freedom	Mean square	F	Significance probability
Review length	Review usefulness	73.438	1	73.438	58.831	.000
	Purchase intention	5.781	1	5.781	2.683	.102
Review sentiment	Review usefulness	76.731	1	76.731	61.469	.000
	Purchase intention	399.942	1	399.942	185.612	.000
Review Length × Review Sentiment	Review usefulness	1.816	1	1.816	1.455	.228
	Purchase intention	192.241	1	192.241	89.218	.000

Fig. 1. Effect of Review Length and Review Sentiment on Purchase Intention (1)



2.4. The Mediating Role of Perceived Usefulness of Reviews

This study examines the perceived usefulness of reviews through regression with the causal step method (Baron & Kenny, 1986). First, the regression of review length and review sentiment on purchase intention is conducted, and the significance of the regression coefficient is tested.

Second, the regression of review length and review sentiment on perceived review usefulness is conducted, respectively, to examine the significance of the regression coefficients. Third, the length of the reviews, the sentiment of the reviews, and the perceived usefulness of the reviews are combined to conduct a regression analysis on the purchase intention to test the significance of the regression coefficient. After testing the significance of the regression coefficients, it is found that perceived review usefulness has no mediating effect between review characteristics and purchase intention. Therefore, Hypothesis 3 is rejected. See (Table 3) for details.

Table 3. Mediating Effect of Perceived Review Usefulness

Independent variable	Dependent variable	B	T	P
The Mediating Effect of Perceived Review Usefulness on Review Length				
Review length	purchase intention	.208	1.333	.183
Review length	Perceived.review.usefulness	.740	7.267	.000
Review length		.281	1.722	.086
Perceived review usefulness	purchase intention	-.099	-1.496	.135
The Mediating Effect of Perceived Review Usefulness on Review Sentiment				
Review sentiment	purchase intention	-1.728	-12.604	.000
Review sentiment	Perceived.review.usefulness	.757	7.444	.000
Review sentiment		-1.853	-12.952	.000
Perceived review usefulness	purchase intention	.165	2.854	.064

3. Experiment 2

3.1. Experimental Design and Sample Selection

Firstly, 12 reviews were selected and divided into 4 groups in the same manner. The research was focused on paper novels. A pre-survey was conducted using the same approach and 102 participants who had purchased books online were selected. The average age of participants was 29.3 years, with 49 being male. Moreover, 85.3% of the participants had received education beyond high school. Participants generally agreed that reference reviews were necessary when purchasing novels ($M=4.95$, $SD=1.87$), and that the spiritual value offered by novels was greater than their practical value ($M_{\text{product attribute}}=5.12$, $SD_{\text{product attribute}}=1.70$). Lastly, participants rated the length and emotion of the reviews based on what they saw, and their scoring results were consistent with the grouping of three graduate students ($M_{\text{longer, positive}}=5.41, 6.01$; $M_{\text{longer, negative}}=5.93, 1.18$; $M_{\text{shorter, positive}}=2.55, 4.01$; $M_{\text{shorter, negative}}=2.14, 2.91$). The same set of items were used to measure both the perceived usefulness of reviews and consumers' purchase intention ($\alpha=0.91$, $M=4.82$, $SD=1.25$), as well as their purchase desire ($\alpha=0.85$, $M=4.91$, $SD=1.08$). The results of exploratory factor analysis are presented in (Table 4), with a KMO of 0.831, an approximate chi-square value of 1889.265, and a rotation sum of squares loading of 74.856.

Table 4. Results of Exploratory Factor Analysis (2)

Question	Factor 1	Factor 2
Online consumer reviews are useful to me.	.779	
Online consumer reviews make purchasing easier	.904	
Online consumer reviews make me a smarter shopper	.862	
Online consumer reviews are very beneficial to me	.880	
Online consumer reviews allow me to understand product information	.856	
How likely is it that you will buy this products		.859
I would give priority to these products		.906
There is a good chance that I will buy these products		.859
Principal Component Analysis, Varimax with Kaiser Normalization		

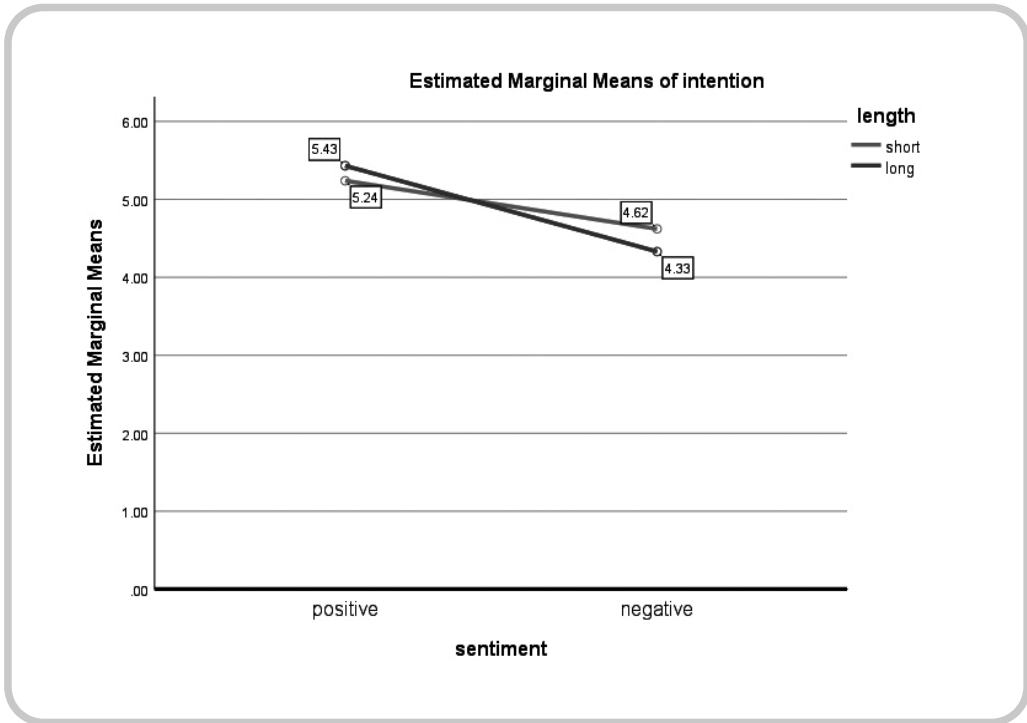
3.2. Experimental Results and Discussion

In Experiment 2, purchase intention and perceived review usefulness were selected as dependent variables in a two-way between-subjects design with two factors: review length (long review vs. short review) and review sentiment (positive vs. negative). A two-way ANOVA was conducted, and the results of the variance analysis are presented in (Table 5). The study found no significant relationship between the length of online reviews and purchase intention, $F(1,404)=.248, P>0.05$. However, a significant relationship was found between review usefulness and purchase intention, $F(1,404)=14.769, P<0.01$, rejecting Hypothesis 1. Additionally, there was a significant relationship between review sentiment and review usefulness, $F(1,404)=35.736, P<0.01$, as well as purchase intention, $F(1,404)=76.164, P<0.01$, supporting Hypothesis 2. The interaction results of review length and review sentiment ((Table 5), (Figure 2)) indicated that review characteristics do affect consumers' purchase intention, $F(1,404)=6.030, P<0.05$.

Table 5. Results of ANOVA

	Dependent variable	Type III sum of squares	Degree s of freedom	Mean square	F	Significance probability
Review length	Review usefulness	20.475	1	20.475	14.764	.000
	Purchase intention	.245	1	.245	.248	.619
Review sentiment	Review usefulness	49.561	1	49.561	35.736	.000
	Purchase intention	75.347	1	75.347	76.164	.000
Review length×review sentiment	Review usefulness	3.882	1	3.882	2.799	.095
	Purchase intention	5.965	1	5.965	6.030	.014

Fig. 2. Effect of Review Length and Review Sentiment on Purchase Intention (2)



Later, Experiment 2 also examined the mediating effect of perceived usefulness of reviews. The experimental results are shown in (Table 6). Perceived usefulness of reviews did not play a mediating role. Hypothesis 3 was rejected.

Table 6. Mediating Effect of Perceived Review Usefulness

Independent variable	Dependent variable	B	T	P
The Mediating Effect of Perceived Review Usefulness on Review Length				
Review length	Purchase intention	-.049	-.455	.649
Review length	Perceived review usefulness	.448	3.680	.000
Review length		-.035	-.016	.752
Perceived review usefulness	Purchase intention	-.032	-.730	.466
The Mediating Effect of Perceived Review Usefulness on Review Sentiment				
Review sentiment	Purchase intention	-.859	-.396	.000
Review sentiment	Perceived review usefulness	.697	5.869	.000
Review sentiment		-.906	-8.806	.000
Perceived review usefulness	Purchase intention	.067	1.624	.105

4. Experiment 3

Finally, the samples from Experiment 1 and Experiment 2 were combined, and the participants were divided into two groups based on the product types: practical products (sports shoes marked as 1) and hedonic products (printed novels marked as 2). In a between-subjects design, an analysis of variance was conducted with purchase intention and perceived review usefulness as dependent variables. The results of the analysis (Table 7) indicate that product type moderates consumers' perception of review usefulness and purchase intention, supporting Hypothesis 4. Specifically, consumers pay more attention to reviews when they choose practical products. Furthermore, the emotions conveyed by reviews have a greater impact on consumers' purchase intentions than the length of reviews. When purchasing hedonic products, the characteristics of reviews still influence consumers' perception of review usefulness, but have little effect on purchase intentions.

Table 7. Results of ANOVA

	Dependent variable	Type III sum of squares	Degrees of freedom	Mean square	F	Significance probability
Review length	Review usefulness	81.785	1	81.785	62.522	.000
	Purchase intention	1.458	1	1.458	.883	.348
Review sentiment	Review usefulness	122.402	1	122.402	93.573	.000
	Purchase intention	387.629	1	387.629	234.686	.000
Product type	Review usefulness	5.100	1	5.100	3.898	.049
	Purchase intention	205.533	1	205.533	124.438	.000
Review length×Review sentiment	Review usefulness	.359	1	.359	.274	.601
	Purchase intention	120.025	1	120.025	72.668	.000
Review length×Product type	Review usefulness	4.947	1	4.947	3.782	.052
	Purchase intention	3.817	1	3.817	2.311	.129
Review sentiment×Product type	Review usefulness	.206	1	.206	.158	.691
	Purchase intention	43.648	1	43.648	26.426	.000
Review length×Review sentiment×Product type	Review usefulness	5.620	1	5.620	4.297	.038
	Purchase intention	52.923	1	52.923	32.042	.000

IV. Conclusion

This study adds to the growing body of literature on online reviews and their impact on consumer behavior, specifically focusing on the effects of review length and sentiment on purchase intentions and perceived review usefulness, as well as the moderating effect of product type. The experimental results are shown in (Table 8). The research findings indicate that both the length and sentiment of reviews affect consumers' perceived usefulness of the reviews. However, the length of reviews does not impact consumers' purchase intentions, whereas the sentiment of reviews does influence their purchase intentions. Furthermore, consumers' perceived usefulness of reviews does not act as a mediating factor between review characteristics and purchase intentions. In addition, compared to happy products, consumers exhibit a greater level of interest in review information for practical products. Additionally, consumers are more influenced by the sentiment of reviews, particularly negative sentiments, rather than the length of reviews. These conclusions were validated through experiments conducted in this study, while controlling for external factors to the greatest extent possible, resulting in high reliability.

Table 8. Hypothesis Test Results

Hypothesis	Result
Hypothesis 1: Compared with short reviews, long reviews have a stronger impact on the usefulness of consumers' reviews and their desire to buy.	Not supported
Hypothesis 2: Negative reviews have a greater impact on consumers' perceived usefulness of reviews and desire to purchase compared to positive reviews.	Supported
Hypothesis 3: The perceived usefulness of online reviews mediates the relationship between review characteristics (length and sentiment) and consumers' purchase intentions.	Not supported
Hypothesis 4: Product type mediates between review characteristics (length and sentiment) and perceived review usefulness and purchase intention. The impact of review features on perceived review usefulness and purchase intention is enhanced when purchasing a utility.	Supported

The findings suggest that the sentiment of reviews has a significant impact on consumers' purchase intentions, whereas the length of reviews has little effect on purchase intentions but can affect consumers' perceived usefulness of reviews. Furthermore, the study finds that consumers pay more attention to the review information of practical products compared to hedonic products, and negative sentiment has a stronger impact on consumers' purchase intentions than positive sentiment.

Overall, this study contributes to the literature on online reviews and consumer behavior by providing a more nuanced understanding of how different review characteristics (length and sentiment) influence consumers' perceived review usefulness and purchase intentions, and how these effects vary across different types of products (utilitarian vs. hedonic). The findings have practical implications for e-commerce platforms and marketers, as they highlight the importance of understanding the specific factors that influence consumers' attitudes towards online reviews and their ultimate purchase decisions. By providing more targeted and effective review strategies, marketers can potentially increase consumers' trust and confidence in online reviews and ultimately drive sales.

Negative reviews in the context of consumption decisions can have an impact on consumers' preferences, potentially delaying purchase actions. However, research suggests that consumers may have a higher tolerance for negative reviews related to pleasure products, which is a warning to merchants operating different types of products. Merchants of practical products should pay more attention to consumer reviews and maintain good communication with customers. This study's combination of different review features and product types into four groups provides a new reference for the study of review features and consumers' purchase intentions. Thus, merchants should avoid negative reviews triggering negative effects when inviting consumers to fill in reviews, and strictly monitor their websites to ensure timely communication with consumers. This can help companies identify and address negative product attributes or experiences, improving complaint management and after-sales service in the short term and even facilitating the creation of superior customer value and a valuable co-creation process in the long run.

However, there are some limitations to this study. For instance, the study used an online experiment method, which although helpful in avoiding interference from many factors, has been criticized for its limited control of the situation. Additionally, participants evaluating the four groups of reviews may have experienced burnout due to the experiment's long duration, which may have hindered the accurate reflection of consumers' feelings. Moreover, the order in which reviews are presented may also have impacted participants' attitudes, which future studies could refine from this perspective. Furthermore, the research failed to solve the problem of "comment length," which is difficult to determine but of great interest to researchers and marketing managers. Other uncontrolled variables, such as consumers' spending power, may also have impacted the study's results.

In terms of further research, the authors suggest that researchers pay more attention to the "threshold of comment length," or how long a comment can be before it is ignored or even disgusted by consumers. Additionally, the authors believe that more attention should be paid to neutral reviews, as the research on online reviews is currently divided. Neutral reviews are often overlooked in existing research, but they may have a significant impact on consumer decision-making. Future research could investigate the effects of neutral reviews on consumer purchase intentions, as well as the possible moderating variables that may affect these effects. Additionally, it would be interesting to explore how other variables, such as the source of the review and the consumer's level of involvement, may interact with the characteristics of online reviews to influence purchase intentions. Finally, future research could expand beyond sports shoes and printed novels to investigate other types of products and their relationships with online reviews. Overall, there is still much to be learned about the complex relationship between online reviews and consumer decision-making, and further research is needed to fully understand this important phenomenon.

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