



## **BEFORE YOUR TRAVEL**

**"Before you prepare to travel, how do you obtain information about your travel destination?"**





**TRUST**  
**USEFUL**

**recommendation**

**acquaintances**

**STRANGERS**

**Online Reviews**

**Accept**

**Refuse**





# The Impact of Online Review Characteristics and Traveler Involvement on Outdoor Travel Decision-Making Intention: An Empirical Analysis Based on Survey and Experimental Study

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# Catalogue

Background

Literature Review and Research Hypotheses

Research Design

Experimental Results and Hypothesis Testing

Conclusions, Recommendations, and Prospects

# 1.1 Technology transforms travel behavior and consumption patterns



**Promoting the in-depth development of a new round of technological revolution and industrial transformation will profoundly affect the entire tourism chain, including information acquisition, supplier selection, consumption scene creation, convenient payment, and social sharing.**

# We use 'stranger social' platforms for socializing.

"Online social platforms are increasingly becoming the 'infrastructure of intimate relationships', which means that digital media platforms can provide commercial new media services for people to establish intimate relationships through technologies such as geographical positioning and precise algorithmic matching."





## 1.2 Outdoor recreation is trending upward as a lifestyle choice

From 2022 to 2023, outdoor sports such as ice and snow activities, road running, cycling, off-roading, and camping have seen explosive growth. In 2023, outdoor sports have gradually become a part of daily life and accessible to everyone.

In the first half of 2023, the volume of orders related to outdoor sports increased by **79%** compared to the same period in 2022, and compared to the same period in 2019, the volume of orders increased by **221%**. From 2023 to 2027, the compound annual growth rate (CAGR) of global outdoor sports e-commerce revenue is expected to reach **9.48%**.





# 1.3 The outdoor tourism industry has typical information-dependent characteristics

## GADGETS DEPENDENT



"Lack of understanding of outdoor products" has become the most important factor limiting consumers' willingness to engage in outdoor activities. As a typical information-dependent industry, more than **82.5%** of survey respondents use the internet to search for information and arrange travel itineraries.

**Online reviews** have become a key source of information for outdoor travelers to understand products or services, and are one of the decisive factors affecting whether consumers make a purchase.

**This paper aims to explore the mechanism by which online reviews and traveler characteristics affect the willingness to make outdoor tourism decisions. Based on empirical analysis such as text analysis. In particular, a 2×2 between-group design experiment of online review valence (positive VS. negative) × online review category (scenery VS. experience) is used to combine different online review scenarios with questionnaires, and to immerse in restoring the psychological and behavioral processes of outdoor travelers' information search, subjective perception, and decision-making. This study opens up a new theoretical perspective and methodological path for the research of online reviews in the field of outdoor tourism.**





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# 2.1 Literature Review: Online review

## Definition

- Online reviews, as a form of user-generated content, represent consumers' evaluations and opinions on their experiences with products or services, functional features, or company information through internet technology.

## Categories

- This paper draws on Zhao and Pechmann's (2007) classification method :
- review valence : **positive (satisfaction and recommendations) and negative (complaints and dissatisfaction) emotional tendencies.**
- review type: **viewing-type reviews** that are inclined to describe appreciation, watching, or sightseeing experiences; **participatory-type reviews** that focus on describing experiences, competitions, and adventures.



# 2.1 Literature Review: Perceived Usefulness

## Definition

- Davis, Bagozzi, and Warshaw (1989) pointed out in the field of information systems research that **external variables affect an individual's perceived usefulness and perceived ease of use of a system, thereby influencing the attitude towards use and behavioral intention, and ultimately affecting the behavior of use, known as the famous Technology Acceptance Model (TAM).**
- This model was later extended to information adoption scenarios to form the TAM2 model, suggesting that information quality and credibility would affect perceived usefulness

# 2.1 Literature Review: Involvement

## Definition

• In 1947, the concept of "involvement" was proposed by American psychologists Sherif and Cantril as "ego involvement," which is considered **the intensity of attitude**. In the field of consumer behavior, it was defined as **the degree of psychological connection between an individual and the object of stimulation**, referring to the importance or relevance of a certain thing to oneself perceived by an individual based on their needs, interests, and values

## Categories

• The involvement referred to in this paper is the enduring involvement as defined by Michaelidou and Dibb (2008), which refers **to the degree of an individual's persistent attention to a particular thing or event due to interest, preferences, and previous related experiential knowledge**.



# 2.1 Literature Review: Consumer Decision-Making

## Definition

- **Consumer decision-making intention is the desire of consumers to purchase a certain product or service, reflecting the subjective probability of consumers to undertake a specific purchase activity.**
- **Tourism experience is the accumulation of emotional value by tourists during the travel process, and the quality of tourism experience directly affects consumers' willingness to revisit and recommend**

## 2.2 Research Hypotheses

### Online Reviews and Outdoor Travelers' Decision-Making

- Consumer satisfaction, approval, and trust in products can also change positively or negatively . Negative information, including low-rated reviews, is considered more useful , and has a stronger weakening and inhibitory effect on consumer purchasing decisions . It has also been found that negative reviews are considered more credible than positive reviews. In tourism-related research, the positive impact of positive online reviews on travelers' decision-making intentions has also been confirmed.For outdoor travelers, when receiving positive or negative reviews for decision-making, viewing-type reviews and participatory reviews play different roles.

## 2.2 Research Hypotheses

### Online Reviews and Outdoor Travelers' Decision-Making

**H1: Review valence affects travelers' decision-making intentions for tourism, with positive reviews having a greater impact than negative reviews.**

**•H2: Review type affects travelers' decision-making intentions for tourism, with participatory reviews having a greater impact than viewing reviews.**

**•H3: The valence and type of online reviews have interactive effects on the decision-making intentions of outdoor travelers.**

**•H3a: When the review valence is positive, participatory reviews have a greater impact on the positive decision-making intentions for tourism than viewing reviews.**

**•H3b: When the review valence is negative, participatory reviews have a greater impact on the negative decision-making intentions for tourism than viewing reviews.**



## 2.2 Research Hypotheses

### The Mediating Role of Perceived Usefulness Intention

- Reviews containing a large number of positive emotional tendencies are more helpful to consumers, but consumers tend to attach more importance to negative information. When the review valence is negative, consumers are more inclined to consider the review useful. Willemsen et al. (2011) believe that the main reason for travelers to search for review information online is to plan their trips in advance, and the perceived usefulness of online reviews undoubtedly affects consumers' purchase decision expectations.

**H4: Perceived usefulness has a mediating effect between online review valence and decision-making intentions for outdoor hiking travelers.**

## 2.2 Research Hypotheses

### The Dual Moderating Role of Review Type and Involvement

- Studies show that compared with consumers with low involvement, those with high involvement have a greater moderating effect on the perceived usefulness of online review valence. The higher the involvement of review recipients, the more they will process the content of online reviews carefully, and their perceived usefulness of online review valence is relatively higher; on the contrary, recipients with lower involvement will only pay attention to marginal review content, and their perceived usefulness of online review valence is reduced.

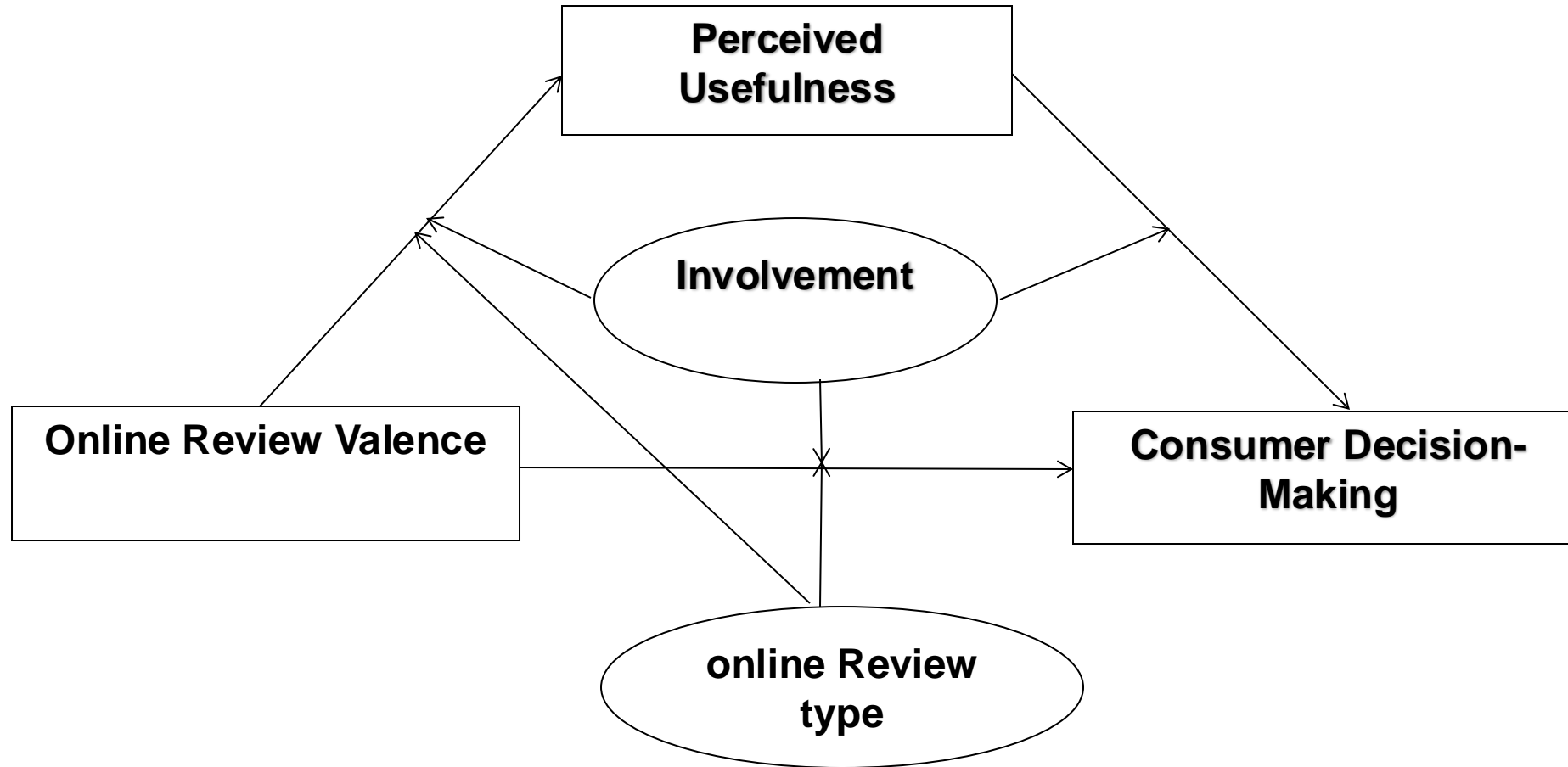
**H4: Perceived usefulness has a mediating effect between online review valence and decision-making intentions for outdoor hiking travelers.**

## 2.2 Research Hypotheses

### The Dual Moderating Role of Review Type and Involvement

- **H5: The review type has a significant moderating effect on the relationship between review valence and perceived usefulness.**
- **H6: Involvement has a significant moderating effect on the relationship between review valence and perceived usefulness.**
- **H7: The review type has a significant moderating effect on the relationship between review valence and decision-making intentions.**
- **H8: Involvement has a significant moderating effect on the relationship between review valence and decision-making intentions.**





**This paper conducts a combined qualitative and quantitative research based on multiple methods including text analysis, expert interviews, experiments, and surveys.**



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# 3.1 Interview Analysis and Comment Screening



**Nivivo 12.0 was utilized to analyze the interview content of 11 seasoned travel enthusiasts and experts in the field of sports tourism with over three years of outdoor experience. This analysis identified nine factors influencing consumers' decisions in outdoor tourism, with participatory comment factors appearing most frequently at a 91% coverage rate and viewing comment factors at an 82% coverage rate, confirming the preliminary division of comment types in the previous text.**



# 3.1 Interview Analysis and Comment Screening



Secondly, two established travel e-commerce websites, TripAdvisor and Mafengwo both over ten years old, were selected as platforms for obtaining sample sources. **Python programming language was used to crawl outdoor tourism product reviews containing keywords such as "outdoor," "camp," "hiking," and "mountain" from 2011 to 2021 on these two websites. The reviews were then cleaned, noise-reduced, and integrated by year, with 15 randomly selected from each year, totaling 150 comments.**

## 3.2 Pre-test Experiment and Scale Construction

**Test the differences in online review valence and comment category**

12 representative online review texts that meet the requirements of subsequent experiments were selected, including 6 positive reviews, 6 negative reviews, 6 viewing reviews, and 6 participation reviews. Score the comment type with 1 for scenery category and 5 for experience category by controlling the factors.

**Scored using the Likert scale**

The results showed that there was a significant difference in the valence scores (positive/negative) of the selected online review samples ( $M_{\text{positive}}=4.20 > M_{\text{negative}}=2.35$ ,  $P=0.000 < 0.05$ ), and the subjects had a significant difference in the category scores (viewing/participatory) of the selected review texts ( $M_{\text{participatory}}=3.75$ ,  $M_{\text{viewing}}=1.15$ ,  $P=0.000 < 0.05$ ), indicating that the manipulation of online review valence and type was effective.

# 3.3 Formal Experiment and Survey

Table 1 Structure 、 Purpose and Content Source of Questionnaire Design

**Table 1 Structure , Purpose and Content Source of Questionnaire Design**

Structure	Purpose	Variable Name	Scale items	Scale reference
Part One	Review Recipient Characteristics Measurement	Basic Information	Gender,age,education,occupation,monthly income and Internet age	none
Part Two	Scenario simulation for measuring the impact of online reviews on outdoor tourism destination selection	Perceived Usefulness	A1.The above comments are useful for my travel decision. A2.The above comments help me understand the destination more effectively. A3.The above comments help me make travel decisions faster.	Wang jian (2020)
		Decision-Making Intention	B1.I decided to go to this place. B2.I am willing to recommend this destination to others. B3.If I have the chance, I will bring my friends and relatives who have never been here to visit this place again.	Cui jianfeng (2019) ; Combined with in-depth interviews
Part Three	Evaluation of review recipient' outdoor travel experience and professionalism	Involvement	C1.You are very familiar with knowledge related to outdoor hiking. C2.You pay close attention to clues related to outdoor hiking. C3.You are an expert in outdoor hiking. C4.Outdoor hiking is an indispensable part of your life.	Zhai qiannan (2019) ;

**Based on this, the scale was constructed (see Table 1). In the second part of the measurement, a basic promotional comment description of a certain destination was first provided to the research subjects, and an interference-free diversion question was set. The measurement variables set under each type of online review were the same, mainly testing the perceived usefulness and purchase intention of the respondents after reading the comments.**

## 3.3 Formal Experiment and Survey

Initially, 60 questionnaires were distributed to the recruited outdoor travelers for a pre-survey. After collection and exclusion of invalid questionnaires, 40 valid questionnaires remained. A reliability analysis of the pre-survey was conducted, and the Cronbach's Alpha values for the variables of perceived usefulness, purchase intention, and involvement were all above 0.8, indicating high reliability.

The subjects of this survey were 300 research volunteers who were recruited in advance from the Outdoor Travel Forum 8264 and randomly sampled from areas around Shanghai. All subjects were numbered according to the order of questionnaire distribution and randomly divided into 4 groups, with 75 people in each group. This ensured that each subject in the 4 groups could only fill out one questionnaire of the same review type. In the end, there were 66 valid questionnaires remaining in each group.





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# 4. Experimental Results and Hypothesis Testing

## 4.1 Reliability and Validity Testing

Statistical results show that the Cronbach's Alpha values for perceived usefulness, purchase intention, and involvement are 0.760, 0.910, and 0.903, respectively, all of which are greater than the acceptable standard of 0.700. This indicates that the questionnaire has a very high level of reliability. Confirmatory Factor Analysis (CFA) revealed that, based on the degree of fit between the hypothetical model and the sample data,  $\chi^2/df = 3.249 < 5$ ,  $P = 0.000 < 0.05$ , and all other indicator values have also reached the recommended levels.

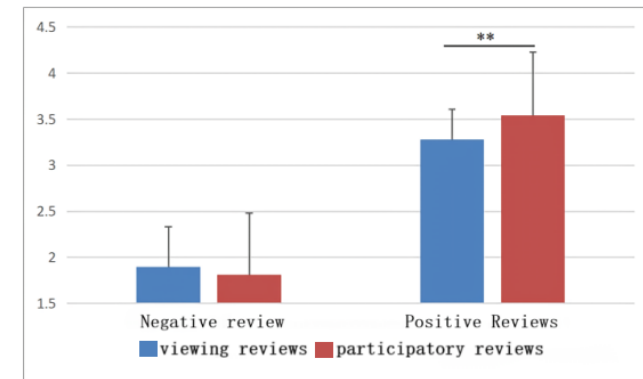
## 4.2 Test of Main and Interaction Effects

The main effect of online review valence was significant ( $F(1,260) = 526.304, P = 0.000$ ), indicating a clear difference in the impact of positive and negative reviews on decision-making intention, with  $M_{\text{positive}} (3.410) > M_{\text{negative}} (1.856)$ . That is, the influence of positive reviews on decision-making intention is significantly higher than that of negative reviews, thus confirming Hypothesis H1. The main effect of review category was not significant ( $F(1,260) = 1.607, P = 0.206$ ), indicating no significant difference in the behavioral intentions of comment recipients between participatory and viewing reviews, which means Hypothesis H2 was not supported.

**Table 2 Moderated mediation model test**

Independent Variable	Dependent Variable	
	Perceived Usefulness	Decision-Making Intention
Online review valence	-0.036	0.551***
Online review categories	0.158	0.048
Involvement	0.023	0.017
Perceived Usefulness		0.224***
review valence × review categories	-0.202**	0.201**
review valence × Involvement	0.180***	-0.004
R <sup>2</sup>	0.521	0.834
F	19.213***	97.961***

The interaction effect between online review valence and review type was significant ( $F(1,260) = 6.427, P = 0.012$ ), indicating that the type of review can moderate the influence of online review valence on decision-making intention. That is, different types of online reviews have significantly different impacts on decision-making intention based on their valence, thus confirming Hypothesis H3, and the interaction is shown in Figure 1. As can be seen from Figure 1, when the review valence is positive, the behavioral intention for participatory reviews is higher than that for viewing reviews ( $M_{\text{experience}} (3.539) > M_{\text{scenery}} (3.281), P = 0.008$ ), indicating that when the review valence is positive, participatory reviews have a greater influence on consumers' positive decision-making intention for outdoor tourism than viewing reviews, thus confirming Hypothesis H3a; when the review valence is negative, the type of review does not significantly differ in its impact on decision-making intention, thus Hypothesis H3b was not supported.



**Figure 1 The interaction effect between online review valence and review type**

### 4.3 Test of the Moderating Effects of Review Type and Involvement

The results indicate that the direct effect of online review valence on behavioral intention is significant ( $\beta=0.851, p < 0.001$ ), and online review valence significantly affects perceived usefulness ( $\beta = -0.339, p < 0.001$ ), with perceived usefulness having a significant positive predictive effect on behavioral intention ( $\beta = 0.217, p < 0.001$ ). Analysis of the mediating effect of perceived usefulness between online review valence and behavioral intention shows that the indirect effect of perceived usefulness on decision-making intention in outdoor tourism is -0.074, and its 95% Bootstrap confidence interval is (-0.115, -0.038). The confidence interval does not include 0, indicating that the mediating effect of perceived usefulness is significant. The "narrowing" effect of the mediating variable, perceived usefulness, influences behavioral intention through online review valence, thus confirming Hypothesis H4. The mediating model is shown in Figure 2.

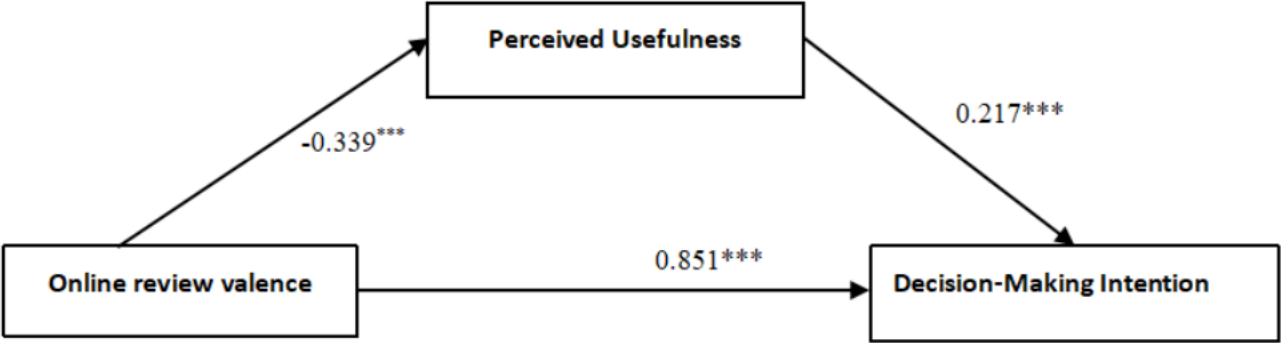


Figure 2 The mediating effect of perceived usefulness



## 4.4 Test of the Moderating Effects of Review Type and Involvement

The product term of review valence  $\times$  evaluation category significantly affects perceived usefulness ( $\beta=-0.202, p<0.01$ ), indicating that the evaluation category has a significant moderating effect between review valence and perceived usefulness, thus supporting H5.

The product term of review valence  $\times$  involvement significantly affects perceived usefulness ( $\beta=0.180, p<0.01$ ), indicating that involvement has a significant moderating effect between review valence and perceived usefulness, thus supporting H6.

The product term of review valence  $\times$  evaluation category significantly affects behavioral intention ( $\beta=0.201, p<0.01$ ), indicating that the evaluation category has a significant moderating effect between review valence and behavioral intention, thus supporting H7.

The product term of review valence  $\times$  involvement does not significantly affect behavioral intention ( $\beta=-0.004, p=0.911$ ), indicating that involvement does not have a significant moderating effect between review valence and behavioral intention, therefore H8 is not supported.

the moderating effects of review type and involvement on the relationship between review valence and perceived usefulness were further analyzed, and the moderation effect diagram was drawn (see Figure 3). Slope analysis indicates that the slope for participatory reviews is greater than that for viewing-type reviews, and the slope for the low involvement group is greater than that for the high involvement group, indicating that compared to viewing-type reviews and high involvement, participatory reviews and low involvement have a stronger moderating effect between review valence and perceived usefulness, reaffirming H5 and H7.

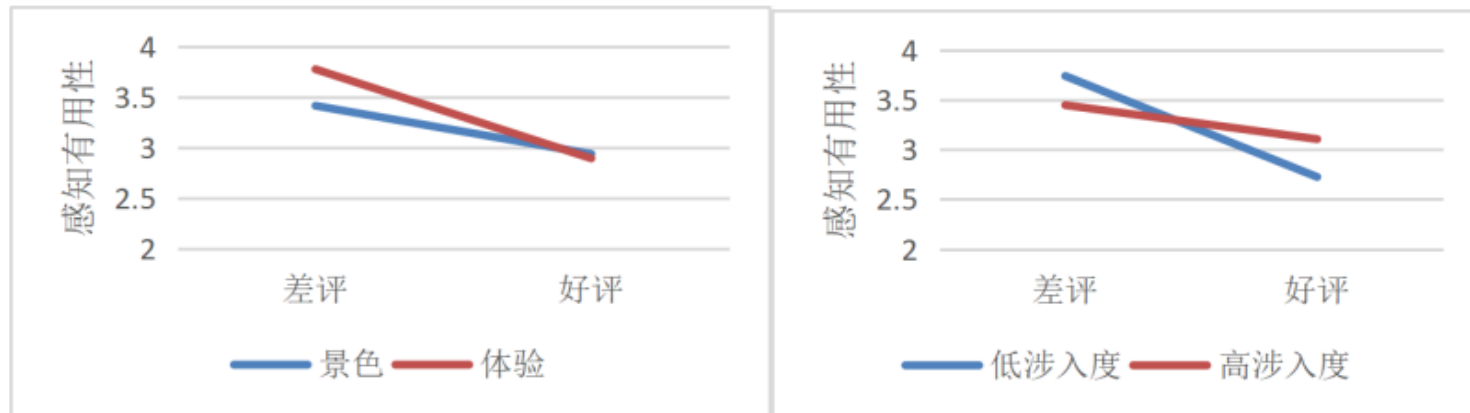


Figure 3: Moderating effect of review type and involvement



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Hypothesis H1 was supported

**Hypothesis H2 was not supported**

Hypothesis H3 was supported

Hypothesis H3a was supported

**Hypothesis H3b was not supported**

Hypothesis H4 was supported

Hypothesis H5 was supported

Hypothesis H6 was supported

Hypothesis H7 was supported

**Hypothesis H8 was not supported**



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## 5.1 Analysis of the conclusions

The empirical results show:

- 1) Online review valence is positively correlated with the decision-making intention for outdoor travel, and the impact of review type is not significant; **in the interaction effect, when the review valence is positive, participatory-type reviews have a greater influence on consumers' positive decision-making intention for outdoor travel than viewing-type reviews;**
- 2) Perceived usefulness has a **mediating effect** on the relationship between online review valence and decision-making intention, and **negative reviews** have a greater impact on travelers' perceived usefulness than positive reviews;





## 5.1 Analysis of the conclusions

The empirical results show:

- 3) The type of reviews has a significant moderating effect on the valence and decision-making intention of online reviews, with participatory reviews showing a more pronounced effect;
- 4) **Traveler involvement has a significant moderating effect on the relationship between online review valence and perceived usefulness**, with a greater moderating effect on positive online reviews than negative reviews.



## 5.1 Analysis of the conclusions

**NEGATIVE INFORMATION played a more important role.**

Negative evaluations in tourism platform reviews are considered more authentic by consumers, allowing them to effectively "avoid pitfalls," reducing the potential risks and possible losses in outdoor tourism consumption decisions.

**Novices(Comment recipients with low involvement) are more easily influenced.**

Comments on online travel platforms have greater guiding significance for the decision-making intentions of novice outdoor travelers.

**Participatory reviews have a greater impact on decision-making intention than viewing reviews.**



## 5.2 Research Recommendations

1)



**Enhance the quality of outdoor tourism products and strengthen the management of online reviews.**

2)



**Strengthen the professional education of outdoor travelers and enhance their willingness to share after the trip.**



## 5.2 Research Recommendations

**1. Enhance the quality of outdoor tourism products and strengthen the management of online reviews.**

**(1) Provide good products and services:**

**Improve the service quality of Consult before booking, post-booking tracking, and post-complaint remedies on the platform.**

**(2) Responsibility Tracking:**

**The backend records every comment made by users, providing evidence for responsibility tracking in case of potential conflicts, ensuring good order in the community.**

**(3) Construct early warning and handling mechanisms for products with high negative review rates.**

**strengthen the ability to effectively identify the quality and authenticity of online reviews. This will reduce the impact of false advertising and malicious reviews, protecting their rights and interests.**



## 5.2 Research Recommendations

1. Enhance the quality of outdoor tourism products and strengthen the management of online reviews.

**What to do when receiving an inappropriate negative review? The negative review is successfully handled through a collective user voting decision.**

**Establish an online dispute resolution mechanism, invite a wide range of users and experts in relevant fields to collectively vote on disputes and disputes between consumers and businesses regarding evaluations and transactions, to ensure that disputes are resolved in a fair, impartial, and timely manner."**





## 5.2 Research Recommendations

**1. Strengthen the professional education of outdoor travelers and enhance their willingness to share after the trip.**

**(1) Offer discounts for high-quality reviews:**

**Add teaching systems and communication sections, encouraging veteran players to write special strategies and conduct online teaching for different tourist destinations. Designs such as **star ratings, veteran recommendations, and pitfall guides** can be created for reviews that contain rich post-experience information.**

**(2) Data Statistics and Analysis, find leader user:**

**By analyzing comments, operational staff can identify content with public opinion influence and leader users, providing assistance for operational strategies, while also creating hot spots and increasing user activity.**

## 5.3 Research Prospects

1)

The survey subjects are mostly limited to outdoor tourism enthusiasts in the Yangtze River Delta region, lacking verification from other regional consumer groups;

2)

It fails to consider other characteristics of online reviews, such as follow-up evaluations, default praise, false reviews, and even review manipulation, in reality

3)

In the future, with **artificial intelligence technology**, such as selection experiments, field experiments, and eye movement experiments, to more accurately understand the mechanism of online reviews on consumer willingness.



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