

Online Reviews and Consumer Return Intention: Multiple Mediation Effects of Cognitive Dissonance (Postprint)

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Abstract

[Purpose/Significance] Online reviews serve as a crucial reference basis for consumer decision-making, not only enhancing product sales but also reducing return rates. Investigating the relationship between online reviews and consumers' return intention contributes to further unlocking the value of online reviews.

[Method/Process] This study employs SOR (Stimulus-Organism-Response) and cognitive dissonance theory to construct a conceptual model of consumer return intention. Using structural equation modeling, Bootstrap mediation testing, and moderation testing, it explores the mechanism through which online reviews influence consumer return intention, and examines the multiple mediating effects of cognitive dissonance and the moderating effect of product involvement.

[Results/Conclusions] The findings indicate that limited, low-quality, or low-credibility online reviews positively affect return intention through product dissonance and emotional dissonance, with the mediating effect of emotional dissonance being greater than that of product dissonance. The total mediating effect of product dissonance and emotional dissonance exceeds the direct effect of online reviews on return intention, while product involvement does not significantly moderate the mediation paths.

Full Text

Preamble

Online Reviews and Consumer Return Intention: Multiple Mediating Effects of Cognitive Dissonance

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Abstract: Online reviews serve as a critical reference for consumer decision-making, not only boosting product sales but also reducing return rates. Exploring the relationship between online reviews and consumer return intention helps to further unlock the value of online reviews. This study employs SOR (Stimulus-Organism-Response) and cognitive dissonance theories to construct a conceptual model of consumer return intention. Using structural equation modeling, Bootstrap mediation tests, and moderation tests, we examine the mechanism through which online reviews influence return intention and test the multiple mediating effects of cognitive dissonance and the moderating effect of product involvement. The results indicate that few, low-quality, or low-credibility online reviews positively influence return intention through product dissonance and emotional dissonance, with the mediating effect of emotional dissonance being greater than that of product dissonance. The total mediating effect of product and emotional dissonance exceeds the direct effect of online reviews on return intention, while product involvement shows no significant moderating effect on the mediation paths.

Keywords: online reviews; SOR model; cognitive dissonance; return intention; product involvement

Classification Codes: G203; F713.36

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1 Introduction

In recent years, online sales have experienced substantial growth. On November 11, 2019, Alibaba's platform transaction volume reached 286.4 billion yuan, representing a 25.7% year-over-year increase from 213.5 billion yuan in the previous year. During the 2019 Thanksgiving period in the United States, online sales also hit record highs, reaching \$7.4 billion with a 19.6% year-over-year increase. However, behind this prosperity lies a high return rate in online sales, particularly under circumstances of impulse buying, herd consumption, and seven-day no-reason return policies, where consumers are more likely to develop return intentions. The combination of already low online prices and return processing costs significantly reduces the marginal profits of online retail. Investigating consumers' return intentions and their underlying causes to reduce return rates has become a practical concern for both businesses and scholars.

D. H. Lee [1] employed survey methods to explore the triggers and motivations behind customer returns, which mainly include product defects, product damage, delivery errors, post-purchase regret, dissatisfaction, and external information cues. While the first five motivations have attracted scholarly attention,

external information cues represent a novel return motivation proposed by D. H. Lee [1]. Consumers can obtain external information needed for decision-making from online reviews. If consumers discover after browsing online reviews that other retailers offer lower prices or products that better meet their needs compared to their purchased product, they are likely to experience post-purchase dissonance, leading to anxiety and uncertainty, and subsequently choose to return the product to alleviate this psychological discomfort.

Online reviews are product or service-related opinions published by consumers based on their personal experiences, including usage experiences, product evaluations, and purchase recommendations. Such information can eliminate purchase uncertainty and enhance trust in products, becoming an important information source for consumers in the internet era and influencing every stage of the consumer decision-making process. However, most current research focuses on the impact of online reviews on sales [2-3] and consumer purchase decisions [4-5], with little attention paid to the relationship between online reviews and consumer returns. PETCO, a private professional high-end pet retailer, found through surveys that online reviews can effectively reduce return rates—products with reviews have a 20.4% lower return rate than those without reviews [6]. Consequently, PETCO encourages consumers to rate and write reviews on its website. N. Sahoo et al. [6] used transaction data from a North American retailer to verify that for rational and risk-averse consumers, high ratings, high review volumes, and high helpfulness votes can reduce return rates. Nevertheless, how online reviews influence consumer return intentions remains underexplored.

Consumer behavior is typically influenced by external environmental stimuli. A. Mehrabian and J. A. Russell [8] studied environmental psychology and proposed the SOR (Stimulus-Organism-Response) model, where environmental stimuli trigger consumers' emotional reactions, which in turn prompt approach or avoidance behaviors. Stimuli are external factors composed of physical environmental elements; organism refers to individuals' internal processing—the process by which consumers transform stimuli into useful information that influences their behavior, mediating between stimuli and behavioral responses. In other words, stimulus outcomes are determined by consumers' emotional states. This model has been widely applied in marketing and service fields. S. A. Eroglu et al. [9] introduced the SOR model to online shopping contexts, dividing the online store environment into high-task-relevant and low-task-relevant components while considering the moderating role of consumer personality traits. D. C. L. Thang et al. [10] further subdivided the store environment into promotion, store image, in-store service, accessibility, publicity, reputation, facilities, and historical transaction services, with the first six factors significantly influencing consumers' store selection preferences. H. Y. Hsu et al. [11] viewed website quality as an environmental stimulus, subdividing it into information quality, system quality, and service quality. J. Y. Kim et al. [12] argued that environmental stimuli should also include website reputation in addition to website quality.

Organism variables serve as mediators, comprising four elements: sensation, perception, psychology, and cognition. Therefore, emotional states are conceptualized as the organism. Emotional states are categorized as pleasure, arousal, and dominance, with dominance playing a smaller role in predicting consumer behavior than the other two emotions [13]. Additionally, many scholars have proposed that cognition also mediates between stimuli and consumer behavior, with cognition and emotion jointly influencing consumer decision-making. In online shopping contexts, cognition describes consumers' internal mental processes, including attitudes, beliefs, comprehension, memory, and knowledge. High-task-relevant environments influence consumer behavior through cognition, while low-task-relevant environments affect consumer decisions through emotion [14].

Response variables represent the outcomes triggered by stimuli, including approach or avoidance behaviors. Approach behavior refers to consumers' desire to stay, explore, interact with, and identify with the environment, whereas avoidance behavior is the opposite—generating dissatisfaction, anxiety, boredom, and irritability, with a desire to leave the environment as soon as possible. Existing response variables typically select approach behaviors such as satisfaction, loyalty, dwell time, purchase quantity, and purchase intention.

Building on existing research, this study draws on cognitive learning theory, the SOR model, and cognitive dissonance theory to construct a conceptual model of how online reviews influence consumer return intention. Using questionnaire surveys to collect data, we explore the internal mechanism through which online reviews affect return intention via cognitive dissonance.

2.1 The SOR (Stimulus-Organism-Response) Model

2.2 Cognitive Dissonance Theory

Cognitive dissonance is a psychological phenomenon first developed by L. Festinger, who proposed that people tend to maintain consistency between their attitudes and cognitive systems [15]. When attitudes and behaviors are inconsistent, a feeling of dissonance arises, which is unpleasant and generates psychological tension. People attempt to reduce this tension and restore a state of consistency or harmony. Opportunity costs and decision uncertainty create cognitive dissonance in consumers, prompting them to reconsider whether their decisions were correct [16]. Although cognitive dissonance theory was widely applied to consumer behavior analysis for over a decade after its introduction, scholarly interest declined with the development of satisfaction and loyalty theories. However, the theory began to resurge in the 1990s, demonstrating strong explanatory power for customer behavior and maintaining an important position in the marketing field.

Initially, cognitive dissonance theory was only used to explain post-purchase behavior. In reality, the theory influences the entire purchase decision process, including pre-purchase, decision-making, and post-purchase stages [17]. In the pre-purchase stage, consumers must choose among alternative products and weigh whether to purchase, creating pre-purchase conflict [18]. During the purchase process, consumers compare the advantages of unchosen products with the disadvantages of selected products, easily causing psychological tension. In the post-purchase stage, consumers contemplate whether their decisions were optimal, generating post-purchase regret.

3.1 Conceptual Model

Online reviews represent positive or negative opinions about products or services published by consumers based on personal experience. Compared to expert reviews and corporate information, online reviews are more credible. Therefore, consumers in online environments rely more heavily on online reviews during decision-making than ever before. Existing research indicates that online review volume positively affects sales—products with recommendation systems achieve twice the sales of those without [19]. Online reviews significantly influence book sales and consumer purchase intention, with review volume considered a measure of product popularity and value. More reviews increase the likelihood that potential consumers will learn about the product, generating an “awareness effect.” Review content reflects quality and credibility, with high-quality positive reviews persuading consumers to purchase and negative reviews prompting them to abandon the product, creating a “persuasion effect.” Zheng Xiaoping [20] confirmed that online review content quality, reviewer credibility, review timeliness, and review volume influence consumer purchase decisions.

This study selects review quantity, review quality, and review credibility as representative factors of online reviews, with emotional dissonance and product dissonance as psychological factors that trigger consumer dissonance states and motivate consumers to reduce dissonance through returns or other decisions. Product involvement serves as a moderating variable. The conceptual model exploring the influence paths and magnitude of online reviews on consumer return intention is shown in Figure 1 [Figure 1: see original paper].

3.2 Research Hypotheses

The more online reviews available, the more detailed and comprehensive the product feature descriptions, and the greater the likelihood that consumers can obtain useful product-related information [21]. The content of online reviews is less important than the number of reviews posted—more reviews can increase sales, while fewer reviews do not. Review quantity can also increase customer

trust [22]. According to signal theory, review quantity serves as an external cue that reduces uncertainty in consumers' quality perception, thereby lowering perceived risk and post-purchase regret, and reducing the likelihood of dissonance. Therefore, we propose:

H1: Few online reviews positively influence consumer return intention.

The impact of online reviews varies. High-quality reviews that detail product functions or usage experiences can better enhance purchase intention [23], whereas low-quality reviews that only reflect reviewers' subjective feelings or make simple recommendations without attribute descriptions do little to reduce consumers' uncertainty. The higher the perceived usefulness of online reviews, the more willing consumers are to adopt them [24], and high-quality reviews are more persuasive [25]. From an information theory perspective, online reviews are important indicators of product quality and consumer fit (though whether online reviews truly reflect product quality is debated, we assume here that they can). Consumers can obtain more useful objective factual information from high-quality reviews [26] to judge whether products meet their purchase expectations. A 10% increase in review utility reduces return rates by 2% [27]. Therefore, we propose:

H2: Low-quality online reviews positively influence product dissonance.

The persuasive effect of online reviews depends not only on information accuracy but also on source credibility. Source credibility is a prerequisite for persuasion, and highly credible word-of-mouth is more persuasive. If online reviews represent not consumer experiences or recommendations but merely reviewers' personal biases that fail to accurately reflect product quality, their credibility decreases. Consumers' perception of low information credibility also weakens the persuasive effect of online reviews. Online review credibility determines consumers' information adoption and learning effectiveness, thereby influencing purchase intention [20,28]. The lower the credibility of online reviews, the harder it is for consumers to perceive true product quality, and the higher their perceived risk and purchase uncertainty, triggering anxiety and other emotional states. Therefore, we propose:

H3: Low-credibility online reviews positively influence emotional dissonance.

J. C. Sweeney et al. [18] proposed three dimensions of post-purchase cognitive dissonance (one emotional and two cognitive dimensions) based on previous research: emotional reaction, wisdom of choice, and transaction doubt. Emotional reaction refers to the psychological discomfort consumers experience after completing a purchase; wisdom of choice refers to consumers questioning whether they need the product or made the best choice after purchase; transaction doubt refers to consumers questioning whether marketing tactics influenced their beliefs. Transaction doubt does not significantly affect post-purchase dissonance, so this study selects the first two dimensions to measure post-purchase cognitive dissonance. When consumers face high perceived risk or when alternative products better meet their needs, they experience disappointment, sadness, or

even regret. According to appraisal theory, cognition triggers emotion, and R. S. Lazarus [29] further confirmed that cognitive appraisal is a sufficient and necessary condition for emotion formation. Appraisal theory posits that emotional reactions do not depend on events or stimuli themselves but are determined by individual needs and coping abilities, explaining why different individuals produce different emotions in response to the same event or why the same individual experiences different emotions across different events. J. C. Chebat et al. [30] compared two models—“environment-emotion-cognition-consumption” and “environment-cognition-emotion-consumption”—finding that the latter had better fit, validating the cognitive theory of emotion.

T. L. Powers et al. [31] termed dissonance related to products as product dissonance, which results from post-purchase perceived performance and occurs when consumers’ cognitive evaluation of purchased products differs from expectations. Emotion is the outcome of cognitive appraisal. Therefore, we propose:

H4: Product dissonance positively influences emotional dissonance.

Research shows that cognitive dissonance is the initial motivation for consumer returns [22]. In the post-purchase stage, consumers compare purchased products with unchosen alternatives. If the comparison results are unsatisfactory, consumers easily experience emotional discomfort [32] and attempt to alleviate this state. Additionally, when purchased products fail to meet consumer expectations or when the advantageous features of unchosen products trigger counterfactual thinking, product dissonance increases. Dissonance motivates consumers to attempt to revoke regretted choices after purchasing products or services, such as through returns. Therefore, we propose:

H5: Product dissonance positively influences consumer return intention.

H6: Emotional dissonance positively influences consumer return intention.

4.1 Research Design

The research paradigms for cognitive dissonance include free choice, belief conflict, effort justification, and induced compliance. This study adopts the free choice paradigm proposed by J. W. Brehm [33] for experimental design. To analyze whether consumers choose to keep or return products after purchase, we use the concept of information discrepancy to explain the motivational mechanism of post-purchase behavior. After purchasing a product, consumers receive external information inconsistent with their previous choice, which prompts them to negate their prior decision and stimulates them to reconsider their purchase decision.

We designed an experimental scenario: After purchasing a product online, a consumer discovers another merchant selling the same product. Both merchants provide identical product feature descriptions and prices, but differ significantly in sales volume and product reviews—the latter merchant has far more positive

reviews and higher ratings. The order for the already-selected product cannot be canceled but allows seven-day no-reason returns, enabling the consumer to repurchase from another merchant. When product perception differs from pre-purchase expectations, consumers typically choose to return [34]. In this scenario, returns are unrelated to product quality but only to external product information, such as product reviews and retailer reputation. Therefore, this study assumes that the purchased product's functionality meets expectations and that no product quality issues exist, focusing solely on exploring how information discrepancy stimuli trigger consumer return intention. For example, after purchasing a product online, a consumer discovers another merchant selling a product with identical features, but perceives from this merchant's product reviews that the quality and fit better meet their needs.

4.2 Scale Development

The scales for online review quantity and quality draw on measurement items constructed by D. H. Park et al. [23] and Zheng Xiaoping [20]. The review credibility scale references the questionnaire by M. Y. Cheung et al. [28], designing items from both review content and review source perspectives. The three dimensions of online reviews (quantity, quality, and credibility) are designed to reflect the impact of few, low-quality, or low-credibility reviews on return intention. The cognitive dissonance scale builds upon items designed by J. C. Sweeney et al. [18], combining factors such as return policy and return barriers affecting product returns proposed by T. L. Powers et al. [31] to divide cognitive dissonance into product dissonance and emotional dissonance. Product involvement adopts J. L. Zaichkowsky's [35] PII scale. The return intention scale uses three levels—possible, strong, and immediate—to indicate consumers' likelihood of returning. The scales and indicator sources for online reviews affecting consumer return intention are shown in Table 1. All items use a 7-point Likert scale.

4.3 Data Collection

This study obtained empirical data through questionnaire surveys. The questionnaire comprised measurement items for online review characteristics, cognitive dissonance psychological states, product involvement, return intention, and demographic information about respondents. The initial questionnaire contained 42 items. The pilot study was conducted offline on campus, distributing 100 questionnaires and recovering 94 valid responses. Based on feedback from this scenario, exploratory factor analysis was performed, eliminating three items with small factor loadings in the rotated factor loading matrix and independent factors: subjective perception of review content authenticity, review positivity, and discomfort and frustration emotional factors. The remaining 39 items

formed the formal questionnaire.

The formal questionnaire was administered both online and offline. Online distribution used Wenjuanxing and social media groups, while offline distribution was conducted on campus. A total of 450 questionnaires were distributed, with 395 recovered. After eliminating invalid questionnaires with obvious patterns or random responses, 382 valid questionnaires were obtained, yielding an effective response rate of 84.9%. Among respondents, 43.5% were male and 56.5% female. Age distribution showed 38.2% aged 18-30 and 55% aged 30-40, with fewer respondents under 18 or over 40. Occupations included government or public institutions (13.1%), enterprise employees (51%), self-employed individuals (6.9%), and students or others (29%). Education levels comprised junior college or below (22%), bachelor's degree (60.7%), and master's degree or above (17.3%). Online shopping experience showed 2.6% with less than one year, 24.3% with 1-3 years, and 73.1% with over three years. Online consumers are primarily enterprise and institution staff with good educational backgrounds, younger demographics, and extensive online shopping experience, enabling them to rationally select online information to guide decisions. The study employed SPSS 24.0, Process 3.5, and Amos 24.0 for analysis.

4.4 Reliability and Validity Tests

Reliability and validity tests are tools for measuring questionnaire quality. Reliability refers to the consistency of test results, typically expressed through internal consistency. Validity refers to the effectiveness and correctness of test results—reliability is a necessary condition for validity, requiring questionnaires to be both reliable and valid. Cronbach's coefficient can handle multiple scoring and is commonly used to measure reliability, but it cannot ensure unidimensional homogeneity and is susceptible to questionnaire length, content relevance, and respondent trait variation. Construct reliability (C.R.) allows errors to be correlated and unequal, with latent variables having different effects on items, making it more precise than coefficient. Combined with average variance extracted (AVE), it observes how much of the total variation in observed indicators comes from latent structures versus measurement error.

The formal questionnaire used principal component analysis for factor extraction, with $KMO = 0.92$ and Bartlett's sphericity test significance less than 0.000, indicating the questionnaire data were suitable for factor analysis. Reliability test results for each latent variable are shown in Table 2. All constructs—including review quantity, review quality, review credibility, emotional dissonance, product dissonance, product involvement, and return intention—met critical value standards. Cronbach's values were all above 0.7, indicating good internal consistency. Construct reliability C.R. values were also greater than 0.7, showing that measurement items consistently explained corresponding variables. AVE values were greater than or equal to 0.5, indicating that measurement indi-

cators explained more variance in the total variance than error variance, meeting convergent validity requirements.

4.5 Hypothesis Testing and Results Analysis

This study used structural equation modeling to test relationships between constructs. To verify the validity of the hypothesized model, four competing models were introduced for comparison. Specific structures and fit indices for these models are shown in Table 3. Except for the hypothesized model with $\chi^2/df = 2.369 < 3$, all other structural models had $\chi^2/df > 3$. Some paths were deleted according to modification indices (MI), conflicting with added paths. For example, in the parallel mediation model, MI suggested adding a covariance relationship between error terms of product dissonance and emotional dissonance, which after addition made the modified model's fit indices identical to the hypothesized model. In the chain mediation model, MI suggested adding a covariance between emotional dissonance item 2's error term and online reviews, and between product dissonance and emotional dissonance error terms, conflicting with deleted paths. Table 3 shows the hypothesized model's χ^2/df ratio is less than 3, with other fit indices being superior, making the original hypothesized model the most reasonable, with good model-data fit.

4.5.1 Structural Equation Test of the Conceptual Model

Using online reviews as the exogenous variable, return intention as the endogenous variable, and product dissonance and emotional dissonance as multiple mediators, with review quantity, review quality, and review credibility as three dimensions of online reviews, we established the hypothesized model to test the influence paths of online reviews on return intention. Model fit indices showed $\chi^2/df = 2.369$, GFI = 0.943, AGFI = 0.914, CFI = 0.967, and RMSEA = 0.06. As shown in Table 4, at the $\alpha = 0.05$ significance level, online reviews significantly influenced return intention ($p = 0.004 < 0.05$) with a standardized path coefficient of 0.18. Online reviews also positively and significantly influenced both product dissonance and emotional dissonance, which in turn positively and significantly influenced return intention, supporting the original hypotheses.

4.5.2 Multiple Mediation Effects Test

Table 4 presents the direct relationships between constructs. To test the role of cognitive dissonance in the relationship between online reviews and return intention, multiple mediation effects must be examined. Common mediation test methods include the causal steps approach, Sobel test, and Bootstrap method. The causal steps approach is simple but has low power. The Sobel test has higher power but requires the product of coefficients to follow a normal distribution and needs large samples. The Bootstrap method is superior, especially when

testing multiple mediation effects with small effect sizes and sample sizes [36]. Therefore, this study adopted the bias-corrected percentile Bootstrap method, first using repeated random sampling to extract 5,000 Bootstrap samples from the original data. Based on the hypothesized model of online reviews affecting return intention, 5,000 estimates of mediation effects were generated to form an approximate sampling distribution. These effect values were sorted by magnitude, and the 2.5th and 97.5th percentiles were used to estimate the 95% confidence intervals for mediation effects. If the interval does not include 0, the mediation effect is significant.

Table 5 shows the mediation effects and significance test results for the hypothesized model. Bootstrap analysis revealed that the confidence intervals for product dissonance and emotional dissonance mediation effects were [0.07, 0.16] and [0.17, 0.31], respectively, with the combined mediation effect confidence interval being [0.05, 0.14]. None of these intervals included 0, indicating significant multiple mediation effects of product and emotional dissonance. The total mediation effect reached 64.7%, exceeding the direct effect of 35.3%, demonstrating that multiple mediation effects are important for explaining how online reviews influence return intention. This mediation model contains three mediation paths: product dissonance's specific mediation effect accounted for 25% of the total mediation effect, emotional dissonance's specific mediation effect accounted for 54.5%, and the serial mediation effect of cognitive dissonance accounted for 20.5%. The contrast mediation effect between product dissonance and emotional dissonance had a confidence interval of [0.11, 0.36], with emotional dissonance showing stronger mediation than product dissonance ($a_{\{1\}}b_{\{1\}} - a_{\{2\}}b_{\{2\}} = -0.13$).

4.5.3 Moderation Effect Analysis

Online reviews influence return intention through cognitive dissonance, but whether this influence path is moderated by product involvement—when mediation effects are stronger or weaker—requires examination. When testing moderation effects, product dissonance and emotional dissonance are treated as two dimensions of cognitive dissonance, with their mean value representing the degree of cognitive dissonance. Following the moderation test procedure by Wen Zhonglin et al. [37], we first tested whether the direct effect was moderated by product involvement (U). The effect of online reviews (X) on return intention (Y) was significant ($c_{\{1\}} = 0.577$, $t = 13.618$, $p < 0.000$), while the interaction term between online reviews and product involvement (UX) on return intention was not significant ($c_{\{3\}} = -0.037$, $t = -0.945$, $p = 0.345 > 0.05$).

Next, we tested whether the mediation effect of online reviews through cognitive dissonance (W) on return intention was moderated by product involvement, referring to the first half of the path in the hypothesized model. The effect of online reviews on cognitive dissonance was significant ($a_{\{1\}} = 0.533$, $t = 12.254$, $p < 0.000$), while the interaction term between online reviews and product involvement (UX) on cognitive dissonance was not significant ($a_{\{3\}}$

$= -0.044$, $t = -1.096$, $p = 0.274 > 0.05$). The effect of cognitive dissonance on return intention was significant ($b = 0.614$, $t = 15.735$, $p < 0.000$). Both groups of test coefficients ($c_{\{1\}}$ and $c_{\{3\}}$, $a_{\{3\}}$ and b) were not significant, making it uncertain whether the mediation effect of online reviews on return intention through cognitive dissonance was moderated by product involvement.

Following the test procedure, we calculated the confidence interval for $a_{\{3\}}b$ using the bias-corrected percentile Bootstrap method. The 95% confidence interval for the product of coefficients $a_{\{3\}}b$ was $[-0.101, 0.033]$, which included 0. We further tested the significance of the difference between the maximum and minimum values of the mediation effect ($a_{\{1\}} + a_{\{3\}}U$) b (with U taking values of 1 and -1). The confidence interval for this difference was $[-0.202, 0.067]$, which also included 0, indicating the difference was not significant. In summary, product involvement has no significant moderating effect on the mediation path of online reviews influencing return intention through cognitive dissonance.

5 Conclusions and Discussion

N. Sahoo et al. collected 14,000 retailer transaction data and online review data, using logistic regression to analyze how factors such as review quantity, review valence, rating distribution, and review length affect return rates [6]. This study further explores the internal mechanism of how online reviews influence return intention. First, we verified the relationship between online reviews (few, low-quality, or low-credibility reviews) and return intention. Then, from the perspectives of SOR and cognitive dissonance, we examined the influence mechanism, reaching the following conclusions:

- (1) Online reviews significantly and positively influence return intention. Information asymmetry in online shopping makes it difficult for consumers to assess true product quality, especially for experiential products where they can only judge product fit by browsing product images, reading descriptions, and online reviews. Factors such as few reviews, low helpfulness votes, and limited objective factual information in reviews increase consumers' uncertainty about product perception, causing discrepancies between post-purchase quality perception and expectations, leading to returns in favor of alternative products with more detailed, objective, and credible information. High-quantity, high-quality, or credible online reviews achieve a win-win effect of promoting sales and reducing return rates [6].
- (2) Online reviews significantly and positively influence cognitive dissonance, with a path coefficient of 0.46 to product dissonance and 0.49 to emotional dissonance, indicating a greater impact on emotional dissonance. During the purchase stage, external information that is inconsistent increases consumers' attention to wisdom of choice and psychological discomfort. Online reviews serve as external information cues that stimulate consumers

to react to their existing decisions. If consumers perceive higher product quality or better need fit from alternative products' online reviews, they will doubt whether they made the best choice (product dissonance) and experience increased psychological discomfort (emotional dissonance), such as annoyance, disappointment, or unhappiness.

- (3) Both product dissonance and emotional dissonance significantly and positively influence return intention, with product dissonance having a smaller impact (path coefficient = 0.23) than emotional dissonance (path coefficient = 0.60). When consumers perceive better alternatives from online reviews, this external information stimulus creates product dissonance accompanied by negative feelings such as anxiety, tension, or unhappiness [31], causing psychological discomfort that creates pressure and drives consumers to reduce or eliminate this inconsistency and restore cognitive harmony. Returns are a means for consumers to reduce dissonance [31], and cognitive dissonance is a driving factor behind consumer dissatisfaction, returns, and negative word-of-mouth.
- (4) Cognitive dissonance plays a multiple mediating role between online reviews and return intention, with total mediation effects exceeding direct effects. The direct effect path coefficient of online reviews on return intention is 0.18, while the total mediation effect through product and emotional dissonance is 0.44. In online shopping environments, consumers' product perception and trust in sellers both derive from accessible information such as product descriptions, communication with sellers, and online reviews. Online reviews contain both objective factual information and subjective evaluative information, while poor-quality, low-credibility reviews increase consumers' negative emotions and doubts about purchased products, thereby increasing return intention.
- (5) Product involvement has no significant moderating effect on the mediation path of online reviews influencing return intention through cognitive dissonance. This result partially supports related research showing that high product involvement does not significantly affect consumer return intention [38]. Higher product involvement means consumers attach greater importance to the product. Before purchasing, consumers process online reviews elaborately. When stimulated by external information, they are unwilling to change existing cognitions but instead search for new information to dilute new cognitions and reduce cognitive dissonance likelihood and intensity [39], without generating return intention.

6 Managerial Implications and Research Limitations

Research on online reviews and consumer behavior has primarily focused on information search, information adoption, and purchase decision-making—the pre-purchase and purchase stages—with scarce literature discussing the impact

of online reviews on post-purchase behavior such as returns and satisfaction. Consumer purchase is not the final behavior; sustained high return rates affect corporate net profits. Building on N. Sahoo et al. [6], this study analyzes the psychological causes and influence paths of returns from the consumer psychological level, providing meaningful guidance for sellers and platforms.

- (1) Incentivize consumers to post online reviews. Online reviews influence consumer behavior across all three stages: pre-purchase, purchase, and post-purchase. Sellers and platforms should adopt appropriate incentive measures to encourage consumers to actively and voluntarily post reviews and share both objective factual information and subjective evaluative information about products, enabling other consumers to fully understand product advantages and disadvantages. This helps consumers feel more confident in their purchase decisions, reducing factors that trigger cognitive dissonance and the likelihood of returns.
- (2) Provide timely and efficient post-purchase response mechanisms. Sellers should strive to control factors that trigger emotional and product dissonance and implement corresponding intervention strategies. When consumers form return intentions, sellers should communicate with them promptly and effectively to alleviate their cognitive dissonance states. During consumers' quality perception process, external information stimuli are only partial influencing factors; interactive communication and after-sales service also significantly impact consumer emotional and behavioral reactions. According to selective attention theory, sellers should display key review information that demonstrates product quality to consumers, prompting them to downplay cognitive dissonance caused by external information stimuli and reduce return likelihood.

This study has several limitations. First, online reviews have multiple characteristics, but this study only focused on review quantity, quality, and credibility, ignoring factors such as ratings and reviewer roles [7]. Future research could explore relationships and differences between different online review characteristics and return intention. Second, control variables were not considered. The positive influence of product dissonance on emotional dissonance and the effect of emotional dissonance on return intention are significantly higher in males than females, with different path patterns [31]. Compared to fast-moving consumer goods, consumers experience higher cognitive dissonance when purchasing luxury goods. Finally, individual consumer differences were not considered. Consumers with different personalities have different post-purchase dissonance tendencies and intensities. Confident consumers are less disturbed by external information and experience lower post-purchase dissonance, while consumers who consult others or extensively collect information before purchase are more susceptible to external information stimuli and experience higher post-purchase dissonance levels. Future research should further explore these issues.

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