Journal of Smart Tourism Vol. 3 No. 3 (2023) 5-15

DOI: https://doi.org/10.52255/smarttourism.2022.3.3.2

Journal of Smart Tourism

ISSN: 2765-2157 (Print) 2765-7272 (Online) Journal homepage: http://strc.khu.ac.kr/

Empirical Research Article

Promotion or Prevention? The Moderating Effect of Embedded External Reviews on Consumer Evaluations

Ziqiong Zhang[a], Le Wang[b], Shuchen Qiao[c]*, and Zili Zhang[a]*

[a] *Professor, School of Management, Harbin Institute of Technology, Harbin, China*
[b] *Ph.D. Candidate, School of Management, Harbin Institute of Technology, Harbin, China*
[c] *Assistant Professor, College of Management, Shenzhen University, Shenzhen, China*

Abstract

Given the increasing information overload among users of online review websites, understanding the manner in which cognitive costs are reduced and efficient information is made reliable has become increasingly important. This study targets a unique consumer review design and explores how reviews from an external peer-to-peer site embedded in an online travel agency (OTA) website influence subsequent evaluation behaviors. The empirical results indicate that (1) embedded external reviews with a high average valence tend to strengthen the influence of the positive evaluation ratio while diminishing the effect of the review volume, and (2) embedded external reviews with a large variance strengthen the positive effect of the review volume while weakening the effect of the positive evaluation ratio on subsequent positive evaluations. The findings provide practical insights for consumers and online platforms.

Keywords

embedded reviews; eWOM; external information; online reviews; evaluation behavior

1. Introduction

With the growth of e-commerce, online reviews have been widely accepted by most consumers as influential and trustworthy information sources (Filieri et al., 2015; Gu et al., 2012; Ladhari & Michaud, 2015; Zhu & Zhang, 2010). In the tourism industry, consumers tend to search for information online before making purchase decisions and post satisfaction evaluations after consumption (Liu & Park, 2015). However, reading a massive number of available online reviews may lead to information overload and additional cognitive costs for consumers (Korfiatis et al., 2012). Moreover, as the source and amount of excessive information varies, consumers may experience difficulties distinguishing useful information, which may influence their purchase intentions and decisions (Chen et al., 2018; Gursoy, 2019; Yan et al., 2015).

In terms of consumers' access to information, hospitality consumers are no longer relying on information from a single source to make purchasing decisions. Both internal information and external information are important factors that affect consumers' decision making. Previous literature shows that internal WOM has a significant impact on consumers' decision making (Bigne et al., 2020; Kim & Chae, 2018). In addition, external review information can also provide a reference for consumers with concerns about the review credibility of a platform before making a purchase decision (Turulja & Činjarević, 2021; Wang et al., 2016), and have the positive effect on consumers' purchase decisions (Chi et al., 2021; Gu et al., 2012), information search preference (Gursoy et al., 2017), willingness to pay for accommodations (Nieto-García et al., 2017), as well as travel application downloading intention (Turulja & Činjarević, 2021). Meanwhile, studies also estimated the relative impact of internal information and external information on product sales (Gu et al., 2012; Gursoy et al., 2019). These studies, however, ignore the important role of external review information in the value judgment of internal review information. In these cases, the external information of different characteristics may increase the possibility of consumers perceiving the quality of the online reviews as either extremely helpful of useless, which can affect the relationship between internal information and consumption decision (Zheng et al., 2013).

Owing to such phenomena, many online platforms provide some innovative mechanisms to introduce external information to enhance the helpfulness of their online reviews for customers making purchasing decisions. For example, the EasyToBook website used a system run by TripAdvisor to replace its existing review system. In addition, some websites include TripAdvisor links on their own sites or post hotel reviews through TripAdvisor Widgets to facilitate the user to collect information. Similarly, this study focuses on a new type of embedded external information, that is, consumer reviews on a peer-to-peer site parallel to internal reviews on an online travel agency (OTA) website.

Our focus on this unique platform design is driven by two major reasons. First, this unique design incorporates both internal

*Corresponding author:
Shuchen Qiao, Assistant Professor, College of Management, Shenzhen University, Shenzhen, China
E-mail address: qiaoshch@szu.edu.cn
Zili Zhang, Professor, School of Management, Harbin Institute of Technology, Harbin, China
E-mail address: zilizhang@hit.edu.cn
Received 28 August 2023; Received in revised form 5 September 2023; Accepted 10 October 2023

information (reviews on OTA sites) and embedded external information (reviews on TripAdvisor), which provide an opportunity to study the influence of external information on the relationship between internal information and consumer decision making. Second, the pros and cons of using embedded external information such as TripAdvisor for hotels are debated. Ayeh et al. (2013) point out that by linking to TripAdvisor, you are actively encouraging your potential customers to book through other channels. While Filieri et al. (2015) argue that TripAdvisor remains a powerful tool for promoting online sales because of its more authentic, referential reviews. Therefore, identification of this unique design and their impact on consumer decisions become an important issue for managers.

Therefore, we attempt to answer the following research question: How do embedded external reviews affect the influence of internal reviews on subsequent consumer evaluations? Specifically, whether external information will strength or weaken the influence of internal information on subsequent evaluations when the external information is consistent or inconsistent with the internal information in terms of the review characteristics (e.g., review volume, average review valence, review variance, and positive evaluation ratio) is underexplored.

We will address the aforementioned research question comprehensively in this study. Based on unique data of online hotel reviews, we investigate the moderating effect of embedded reviews on the relationship between internal reviews and subsequent consumer evaluations. The rest of this paper is organized as follows. We provide the theoretical framework and research hypotheses in Section 2 and conduct the empirical research and present the data analysis results in Sections 3 and 4, respectively. Finally, we discuss the theoretical and practical implications of our findings and the conclusion in Section 5.

2. Theoretical Background and Hypotheses

2.1 eWOM

Scholars explored numerous issues related to online consumer reviews, which can be considered as a form of eWOM, in the tourism and hospitality industry (Filieri et al., 2015). Existing research on eWOM and travel-related reviews primarily highlighted two streams, that is, eWOM-seeking behaviors in the prepurchase stage and eWOM-giving behaviors in the post-purchase stage (Kanje et al., 2020). First, eWOM-seeking studies focused on the consequences of eWOM, including consumers' decision making (Bigne et al., 2020) and tourism product performance (Kim & Chae, 2018). Among the indicators of eWOM, review volume, valence, and variance are generally regarded as the three most observable and vital factors (Xie et al., 2016). The review volume reflects product popularity and user awareness (Duan et al., 2008; Li et al., 2017; Ye et al., 2009), the review valence of online ratings represents the overall evaluation of a product or service (Chan et al., 2017; Goh et al., 2013), and the review variance indicates the heterogeneity in consumer opinions (Guo & Zhou, 2016; Park & Park, 2013; Sun, 2012;).

Second, the antecedents of eWOM (i.e., online ratings and reviews) were explored in research on eWOM-giving behaviors, including consumption emotions (Yan et al., 2018), consumers' characteristics (e.g., cultural values; Wen et al., 2018), motivations (e.g., self-enhancement, enjoyment, venting, economic incentives; Hu & Kim, 2018), the external environment (e.g., weather factors; Qiao et al., 2022), and eWOM media (e.g., information sources; Liu et al., 2021). EWOM can be shared and spread through online reviews published on independent peer-to-peer websites (e.g., TripAdvisor.com), third-party e-commerce websites (e.g., Booking.com), social media websites (e.g., YouTube.com), and corporate websites (e.g., Thomson.co.uk; Filieri, 2016; Nuriman et al., 2020; Song et al., 2019). As consumers' eWOM activities penetrated various online media (Gursoy et al., 2019), their eWOM media preferences and cross-media EWOM influence have be preliminarily understood, but most of the studies focus on the EWOM of social media (Nuriman et al., 2020). In this study, thus we aim to explore whether media eWOM from independent peer-to-peer websites affect consumers' subsequent evaluation behavior.

2.2 External Information

Previous research defined external information as an element related to but not part of a product's physical composition (e.g., price, brand name, seller's reputation, and online review; Chi et al., 2021; Wang et al., 2016). In this study, embedded reviews can be considered as external information that differ from internal consumer reviews on OTA websites. Prior research investigated the effects of external information on eWOM behaviors based on different definitions of external information. For example, Huang et al. (2020) examined how emoticons in online reviews as external affective information influence review helpfulness. Positive emoticons enhance review helpfulness when a review is narrative based, whereas negative emoticons increase review helpfulness when a review is list based. Chi et al. (2021) explored the direct and interaction effects of picture color cues and textual information related to color as external information on accommodation-sharing platform rental purchase. Wang et al. (2016) suggested that pictures of consumer reviews as external information embedded in internal product descriptions influence purchase decisions. Kim and Chae (2018) examined the effect of a hotel's social media use on its performance and found a positive association between Twitter use and hotel performance.

Recent developments in online and mobile technologies have changed the way hospitality consumers obtain external information. Social media and/or third-party online platforms have become the most important source of information outside of the internal OTA platform (Gursoy et al., 2019). Although there are many sources of external information, it is impossible for consumers to use all of those available sources. Instead, they are likely to utilize a small amount of external sources that generate the most utility. And information is asymmetric in consumer behavior research. Consumers tend to rely on external information more than on internal information when internal information is difficult to obtain (Rao & Monroe, 1988). Meanwhile, other studies focused on source credibility (Hsieh & Li, 2020; Kim et al., 2019; Narwal & Nayak, 2020), specifically the source of a review. In the hotel research context, scholars argued that consumers give more importance to information from peer-to-peer sites (e.g., TripAdvisor.com) than to information from online booking websites (e.g., Expedia.com or Booking.com), because they are likely to trust user-generated content (UGC) uploaded on review sites more than that from any other online source (Del Chiappa et al., 2018; Gursoy et al., 2017). For instance, Gu et al. (2012) distinguished external reviews as eWOM from external websites and internal reviews from retailer-hosted platforms and revealed that external reviews, which enjoy a better reputation and higher recognition, affect consumers' decision making more than internal reviews. Above all, many studies focus on the change of WOM influence within a single WOM source, while some studies supplement these studies by noting the differences in WOM influence among different WOM sources. However, consumers' processing of internal information and external information is not independent, but complementary (Gu et al., 2012). We complement these studies by analyzing whether the use of external information affects consumers' judgments of the value of internal information.

2.3 Affective Priming Effect

Affective priming effect means that when an individual processes a stimulus with a certain emotional significance in the first place, it is easy to stain subsequent processing with

corresponding emotional color (Mikhail & James, 2002). In the field of psychology, some scholars introduced the influence of affective priming effect on human memory (Sheafer, 2007), attention (Yi, 1990) and other cognitive activities, and found that there were significant differences in people's memory under different emotional priming states, and negative emotional priming was more likely to cause the attention bias of subjects.

Previous research has confirmed the existence of affective priming and its possible impact on consumer behavior. Murphy and Zajonc (1993) confirmed that massive public online comment information and WOM dissemination make B2C website users have a certain consumption mood before shopping, and emotional reaction can happen in a very fast time with only a small amount of stimulation. In this context, during the rating generation phase, the rating system interface (whether embedded external reviews are included) may have a "priming effect" on the consumer providing the review, possibly affecting the rating and number of internal reviews.

2.4 Hypothesis Development

Previous reviews on informational roles found that the diagnosticity of prior reviews (e.g., average rating, positive review ratio and review volume) affects the extent to which subsequent reviewers judge the quality of reviewed products and predict whether they match their needs, which directly relates to their post-purchase satisfaction and thus shapes their product evaluation (Godes & Silva, 2012; Li & Hitt, 2008; Guo & Zhou, 2016). Consumers tend to form expectations from a number of past reviews and positive reviews before making a purchase. After consumption, expectancy confirmation will enforce consumers' satisfaction and thus positive evaluation, and vice versa (Ho et al., 2017). In summary, the withholding perspective suggests that subsequent positive evaluation is positively related to the internal eWOM (i.e., review volume and positive review ratio) on an OTA website (Filieri, 2015; Guo & Zhou, 2016; Ma et al., 2013).

Affective priming effect holds that when specific emotional modules in memory are activated, the emotions involved are more likely to be invoked in the memory, thus becoming the basis for subsequent judgment (Sheafer, 2007). The processing of content and emotion in information is closely related. The higher the frequency and intensity of the emotional tendency in the leading information, the higher the availability of the emotion in the subsequent information processing, and the easier it is to become the most influential reference standard in the subsequent information processing (Yi, 1990). When consumers find that the valence of embedded external reviews is relatively high, consumers can obtain more positive emotional experience from the reviews, thus affecting the impact of the internal website evaluation. Meanwhile, consumers tend to integrate information to make decisions. The predictive value and confidence value of information influence consumers' judgement accuracy and evaluation confidence for a product (Cox, 1962; Richardson et al., 1994). A higher evaluation represents the overall satisfaction of the product or service, which can enhance consumers' confidence in making a choice. In this context, when the average valence of embedded reviews and positive internal review ratio are consistently high, consumers will likely derive positive emotions from existing reviews and post positive evaluations after consumption on a positive emotional tone, thereby strengthening the effect of the positive internal review ratio. Hence, we propose the following hypothesis:

H1. *The average valence of embedded external reviews positively moderates the influence of the positive internal review ratio on subsequent positive evaluations.*

Review valence is a core aspect of online reputation that can affect potential consumers' acceptance and trust of review content (Blanca, 2018). In this context, consumers tend to perceive sellers with the high valence of embedded reviews as having a higher reputation and being more trustworthy and they will be more inclined to accept the information conveyed by product reviews. The review volume, which is commonly used as a proxy for product popularity, is associated with quality perception (Lee et al., 2015; Li et al., 2017). And the high volume of reviews can also improve consumers' confidence in making purchasing decisions. And when individuals have confidence to make decisions, they rely on heuristic processing instead of systematic processing (Maheswaran & Chaiken, 1991). In this context, when the average valence of an embedded review and the volume of an internal review are consistently high, consumers will likely judge the hotel quality using heuristic information processing and may not need a high volume of peer reviews before booking. Thus, the effect of the volume of the internal review is weakened. Hence, we propose the following hypothesis:

H2. *The average valence of embedded external reviews negatively moderates the influence of the volume of the internal reviews on subsequent positive evaluations.*

The procedure for users to post comments on TripAdvisor is relatively strict (Yoo & Gretzel, 2009). TripAdvisor applies various algorithms to filter out suspicious reviews, which are not published in the website. Compared with the online reviews on eLong.com, the embedded external reviews from the TripAdvisor platform can be considered as more truthful reviews, which consumers regard as more trustworthy and persuasive (Ayeh et al., 2013). Hotel research demonstrated that consumers give more importance to information from peer-to-peer sites (e.g., TripAdvisor.com) than to information from online booking websites (Del Chiappa et al., 2018; Gursoy et al., 2017). As trustworthy information, embedded reviews from the TripAdvisor platform may influence the effect of internal reviews on subsequent positive evaluations.

Furthermore, a high level of review variance generally indicates post-consumption disagreement toward a product or service, thus enhancing consumers' perception of the risk of the product or service. To expand on the conservative approach to risky behavior, risk-averse individuals prefer intermediate options. This is because intermediate options (ratings with low variance) have relatively smaller disadvantages than extreme options (ratings with high variance), and the choice of extreme options increases the risk of potentially making a poor decision (Zheng et al., 2022). Therefore, consumers tend to exclude the product with high variance from further consideration to avoid perceived product uncertainty and negative anticipation of consumption consequences (Hong and Pavlou 2014; Wu and Lee 2016). Embedded external reviews from the TripAdvisor platform are considered to be more trustworthy information, and if they have a large variance, they will exacerbate consumer perceived uncertainty and negative anticipation. Therefore, when external information (high variance of embedded reviews) and internal information (high positive internal review ratio) are inconsistent, the negative information will dominate consumers' judgments and behaviors (Miyazaki et al., 2005). In other words, consumers tend to reconsider the value of positive evaluations on websites with high deviation in the embedded reviews (Guo & Zhou, 2016; Filieri, 2016), thereby devaluing the effect of the positive internal review ratio. Thus, we propose the following hypothesis:

H3. *The variance of embedded external reviews negatively moderates the influence of the positive internal review ratio on subsequent positive evaluations.*

When individuals are faced with risky options, heuristic processing cannot help them achieve a sufficient level of confidence to make decisions (Maheswaran & Chaiken, 1991). When the variance of embedded reviews is high, consumers will perform systematic processing and perceive that additional reviews are necessary to improve their perception of informativeness for decision making. That is, when the variance of embedded external reviews is high, consumers may not need a large number of internal website reviews, thus weakening the impact of the volume of internal reviews. Therefore, we propose the following hypothesis:

H4. *The variance of embedded external reviews positively*

moderates the influence of the volume of internal reviews on subsequent positive evaluations.

The framework of this study is presented in Figure 1.

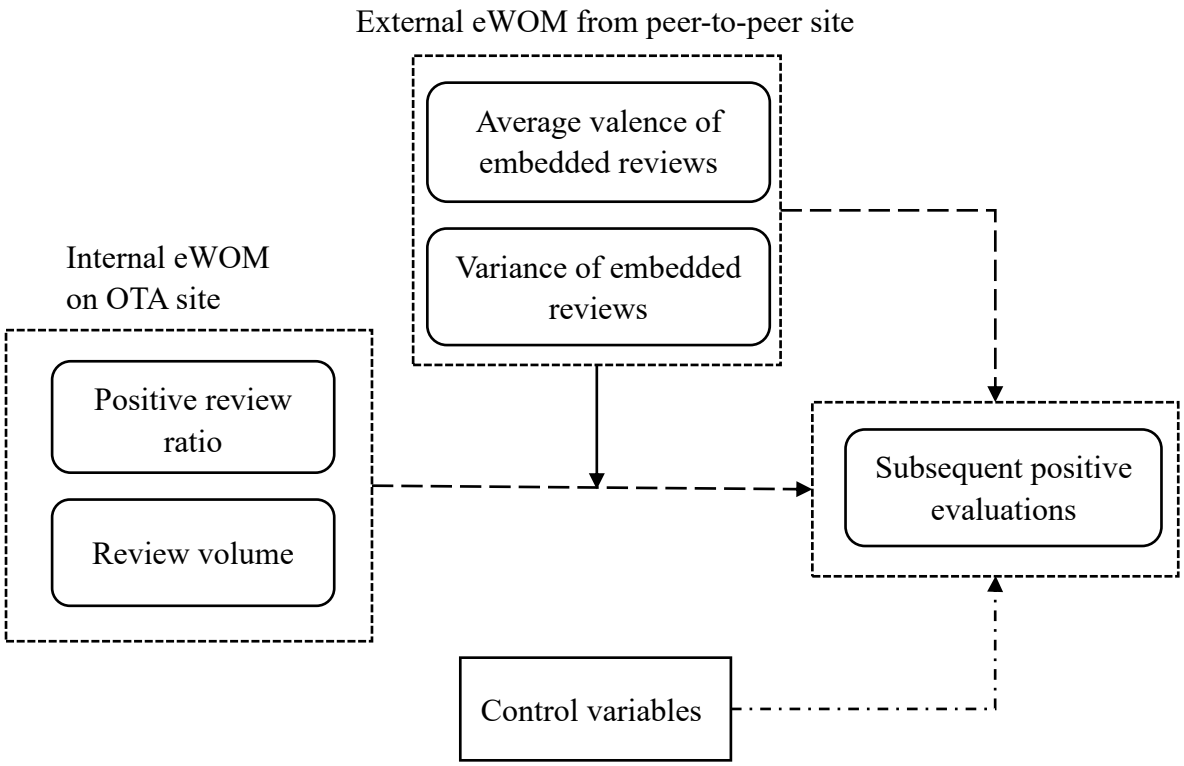

Fig. 1. Research framework

3. Data and Methodology

3.1 Data

Our research context is eLong.com, which is one of the leading OTAs in China (Chen et al., 2019). Similar to Expedia.com and Booking.com, eLong.com mainly offers services for plane tickets, train tickets, hotel bookings, and travel management guides. We selected this context for several reasons. Elong.com was officially founded in 1999, and has accumulated more than 20 years of user reputation and supply chain advantages in the industry. In addition, it provides additional detail in each consumer review, including review date, review device, trip type and room type. And most importantly, this site is very suitable for our research because it has a unique design that contains external information. Specifically, eLong.com introduced "embedded TripAdvisor user review" modules into each hotel booking web page. An embedded module contains five tourist-generated reviews from the TripAdvisor platform in addition to the online reviews on eLong.com.

We developed JAVA-based crawlers to retrieve all the available reviews on common hotels in Beijing listed on eLong.com during the data collection period. We chose this city because it is the capital of China and where eLong.com is headquartered. The website requires numerical, textual, and pictorial reviews. For each review, we collected the time stamp, time of stay, review device, trip type, and hotel room type, including review-level, individual reviewer-level, and hotel-level variables. After deleting samples that lack data and do not meet requirements, we obtained 36,117 review records with embedded reviews, covering the majority of the reviews on eLong.com.

3.2 Measurement and Descriptive Analysis

Dependent variable. eLong.com uses a rating system differing from that of TripAdvisor.com (binary vs. five-point ratings), as shown in Figures 2 and 3. Reviews on eLong.com are only "recommended" or "not recommended" evaluations representing positive or negative reviews. We used *SquRecom* to indicate whether or not a hotel was recommended in a review.

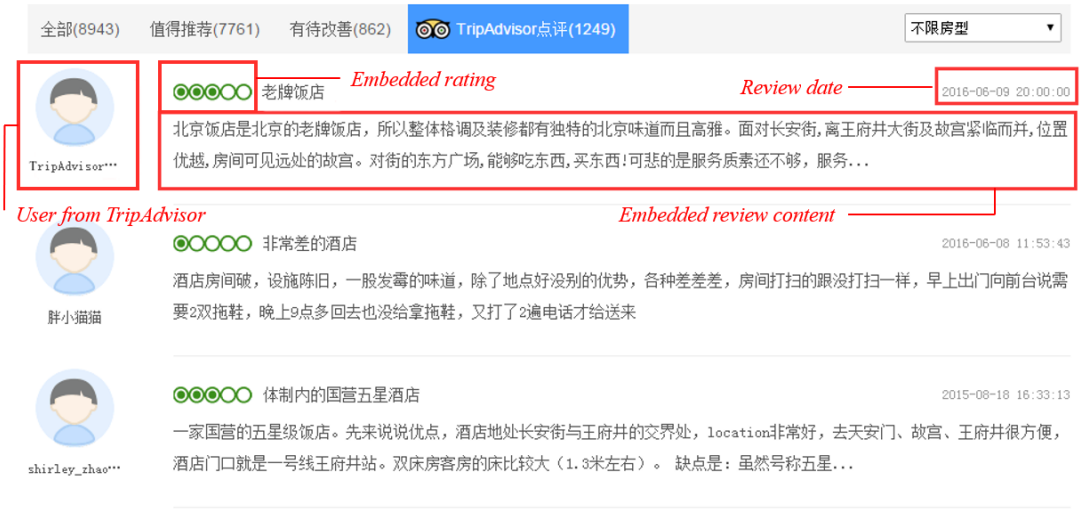

Fig. 2. UGC from Tripadvisor.com embedded in eLong.com

Fig. 3. UGC on eLong.com

Independent variables. We defined *RecomRatio* as the ratio of previous recommending reviews, which reflected the positive internal review ratio. We used *RevNum* as the number of previous reviews before the current review (Li et al., 2019) and took its logarithm (*LgRevNum*) in the models to make the overall data fluctuate slowly and consistently. Based on the five-point rating scale of TripAdvisor.com, we measured *TripAve* using the average of the embedded review ratings, which can represent the emotional tone of embedded external information observed by consumers. In addition, we defined *TripVar* as the variance of the embedded review ratings.

Control variables. We controlled for the variables relevant to the reviews, including review length (*RevLen*) and the number of pictures in the current review (*PicNum*), which can influence consumers' satisfaction and evaluation behavior (Bigne et al., 2020; Li et al., 2017; Yang et al., 2017). We considered the device used by the consumer to post the review (Device; Li et al., 2019) and travel type with different companions (TravelType; Park et al., 2019) to account for consumer heterogeneity characteristics owing to their influence on consumers' review-writing behavior. We controlled for hotel-specific variables, such as room type (RoomType) and hotel fixed effects (Hotel). We also controlled for time-specific variables to account for unobserved temporal heterogeneity with month fixed effects (Month) by adding a vector of the month dummy variables to account for a month. The detailed variable measurements are shown in Table 1, and the summary statistics of the continuous variables are presented in Table 2.

Table 1. Variable descriptions

Variable	Description
Dependent Variable	
SquRecom	Dummy variable indicating whether or not the current review is recommending a hotel, with 1 = "recommend" and 0 = "not recommend"
Independent Variables	
RecomRatio	Ratio of number of recommending reviews to number of reviews before the current review
LgRevNum	Log-transformed number of reviews before the current review
TripAve	Average of embedded review ratings
TripVar	Variance of embedded review ratings
Control Variables	
RevLen	Review length of the current review
PicNum	Number of pictures in the current review
Device	Device used to post the current review
TravelType	Travel type of consumer who posted the current review
RoomType	Type of hotel room booked in the current review

Table 2. Summary statistics

Variable	Mean	Std. Dev.	Min	Max
SquRecom	0.9090	0.2876	0	1
RecomRatio	0.8243	0.2448	0	1
LgRevNum	6.5590	1.5452	0.6931	9.2224
TripAve	3.8027	0.5566	1	5
TripVar	0.6066	0.8178	0	8
RevLen	32.4376	55.2645	1	4000
PicNum	0.1921	0.8700	0	9
Device	1.8926	0.6378	1	4
TravelType	2.6948	1.5823	1	6
RoomType	954.81	1761.556	1	8135

3.3 Estimation Method

For the binary choices of the dependent variables, we exploited a logit regression model to test the hypotheses (Karlson et al., 2012; Peng et al., 2002). We estimated the following equations to test our hypotheses.

$$SquRecom_{ijt} = \alpha + \beta_1 RecomRatio_{ijt} + \beta_2 LgRevNum_{ijt} + \beta_3 TripAve_{jt} + \beta_4 TripVar_{jt} + \beta_5 RevLen_{ijt} + \beta_6 PicNum_{ijt} + \beta_7 Device_{ijt} + \beta_8 TravelType_{it} + \beta_9 RoomType_{ijt} + Month\ FE_t + Hotel\ FE_j + \mu_{ijt}, \quad (1)$$

$$SquRecom_{ijt} = \alpha + \beta_1 RecomRatio_{ijt} + \beta_2 LgRevNum_{ijt} + \beta_3 TripAve_{jt} + \beta_4 TripVar_{jt} + \beta_5 RecomRatio_{ijt} * TripAve_{jt} + \beta_6 RecomRatio_{ijt} * TripVar_{jt} + \beta_7 LgRevNum_{ijt} * TripAve_{jt} + \beta_8 LgRevNum_{ijt} * TripVar_{jt} + \beta_9 RevLen_{ijt} + \beta_{10} PicNum_{ijt} + \beta_{11} Device_{ijt} + \beta_{12} TravelType_{it} + \beta_{13} RoomType_{ijt} + Month\ FE_t + Hotel\ FE_j + \mu_{ijt}, \quad (2)$$

where i refers to the consumer, j refers to the hotel, t refers to the time of the current review, and μ_{ijt} is the logistic distribution term.

4. Empirical Results

4.1 Main Results

Table 3 shows the main estimation outcomes of the logit regression. In Model (1), we examine the effects of the previous reviews (volume and positive review ratio) and embedded external reviews on the probability of subsequent positive evaluations. Models (2) to (4) further estimate the results of the interaction terms. Testing after the fixed effects terms are added yields the results in Model (5), which provide evidence for the same signification of the moderating effects. The results in Model (5) show that the coefficients of *RecomRatio* and *LgRevNum* are positive and significant, thereby suggesting the positive effect of the ratio of previous recommending reviews and the number of reviews from the internal booking platform on consumers' subsequent positive evaluations. The coefficient of *TripAve* is significantly positive (coef. = 0.057, $p < 0.01$), whereas the coefficient of *TripVar* is negative (coef. = –0.162, $p < 0.01$). These results indicate that the higher the average valence of the embedded reviews, the more likely the positive evaluation in a subsequent review. By contrast, the lower the average variance of the embedded reviews, the more likely the positive review in a subsequent evaluation.

Table 3. Estimation results of effect of embedded external reviews

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
RecomRatio	1.193***	1.513***	1.071***	1.484***	1.458***
	(0.039)	(0.042)	(0.038)	(0.042)	(0.042)
LgRevNum	0.050***	0.045***	0.052***	0.055***	0.047***
	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)
TripAve	0.054***	0.057***	0.053***	0.055***	0.057***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
TripVar	−0.138***	−0.135***	−0.164***	−0.161***	−0.162***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
RecomRatio*TripAve		0.602***		0.462***	0.451***
		(0.046)		(0.047)	(0.047)
LgRevNum*TripAve		−0.033***		−0.043***	−0.046***
		(0.006)		(0.007)	(0.007)
RecomRatio*TripVar			−1.577***	−1.314***	−1.270***
			(0.126)	(0.129)	(0.129)
LgRevNum*TripVar			0.096***	0.126***	0.127***
			(0.016)	(0.018)	(0.018)
RevLen	−0.005***	−0.005***	−0.005***	−0.005***	−0.005***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
PicNum	0.129***	0.127***	0.128***	0.127***	0.130***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Device	YES	YES	YES	YES	YES
TravelType	YES	YES	YES	YES	YES
RoomType	YES	YES	YES	YES	YES
Hotel FE	NO	NO	NO	NO	YES
Month FE	NO	NO	NO	NO	YES
Constant	1.254***	1.328***	1.242***	1.320***	1.651***
	(0.026)	(0.027)	(0.026)	(0.027)	(0.038)
Observations	36,117	36,117	36,117	36,117	36,117
Prob > Chi2	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R2	0.0315	0.0324	0.0333	0.0338	0.0365

Note: The values in parentheses indicate the z ratio; asterisks indicate that the coefficient is significant at the *10%, **5%, and ***1% levels.

The positive coefficients of the interaction term *RecomRatio*TripAve* (coef. = 0.451, $p < 0.01$) indicate that the positive internal review ratio with a high average valence of the embedded reviews is likely to have a positive effect on the current review and posting of positive evaluations. In other words, an increase in the valence of the embedded reviews may lead to a big increase in the possibility of subsequent positive evaluations under the effect of the positive internal review ratio, thereby supporting H1. By contrast, the negative coefficients of the interaction term *LgRevNum*TripAve* (coef. = −0.046, $p < 0.01$) show that when the average of the embedded review ratings is high, the effect of the review volume of the original platform is not influential. That is, when the valence of embedded reviews is high, consumers do not need a large volume of reviews to make purchase decisions, which supports H2.

The negative slope of the interaction term *RecomRatio*TripVar* (coef. = −1.270, $p < 0.01$) indicates the negative moderating effect of the variance of the embedded review ratings on the positive relationship between the positive internal review ratio and subsequent positive evaluations. In other words, an increase in the variance of the embedded review ratings may lead to a small increase in the possibility of subsequent positive evaluations under the effect of the positive internal review ratio; thus, H3 is supported. Moreover, the coefficient of the interaction term *LgRevNum*TripVar* is positive and statistically significant (coef. = 0.127, $p < 0.01$), thereby suggesting that the positive social influence of the volume of the previous reviews on the current evaluation is strengthened by the increase in the deviation of the embedded review ratings. These results provide empirical support for H4, and a large volume of review information is required in this context, with high variance in the embedded reviews.

4.2 Robustness Checks

The main empirical results presented above are based on the data of 100 previous reviews before the current review. We check the robustness of the results with different previous review volumes before the current review. We calculate the variables with 50 and 200 previous reviews to avoid an arbitrary choice of the number of previous reviews that may be read by current consumers. We reestimate the empirical models with the reaggregated data using the same methods and equations as Models (6) to (10) and Models (11) to (15). The results of the reestimation are shown in Table 4 and Table 5. In general, we find that the empirical results are consistent with those reported in Table 3.

Table 4. Robustness check with 50 previous reviews

	Model (6)	Model (7)	Model (8)	Model (9)	Model (10)
RecomRatio	1.682***	2.120***	1.523***	2.062***	2.051***
	(0.040)	(0.045)	(0.038)	(0.046)	(0.046)
LgRevNum	0.037***	0.036***	0.039***	0.040***	0.034***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
TripAve	0.052***	0.060***	0.051***	0.059***	0.060***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
TripVar	−0.119***	−0.116***	−0.157***	−0.154***	−0.156***
	(0.017)	(0.017)	(0.016)	(0.016)	(0.016)
RecomRatio*TripAve		0.828***		0.714***	0.683***
		(0.054)		(0.056)	(0.056)
LgRevNum*TripAve		−0.037***		−0.056***	−0.059***
		(0.006)		(0.007)	(0.007)
RecomRatio*TripVar			−1.753***	−1.514***	−1.465***
			(0.146)	(0.150)	(0.150)
LgRevNum*TripVar			0.032**	0.092***	0.096***
			(0.015)	(0.018)	(0.018)
RevLen	−0.005***	−0.005***	−0.005***	−0.005***	−0.005***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
PicNum	0.128***	0.125***	0.127***	0.125***	0.128***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Device	YES	YES	YES	YES	YES
TravelType	YES	YES	YES	YES	YES
RoomType	YES	YES	YES	YES	YES
Hotel FE	NO	NO	NO	NO	YES
Month FE	NO	NO	NO	NO	YES
Constant	0.941***	1.026***	0.950***	1.022***	1.324***
	(0.025)	(0.026)	(0.025)	(0.026)	(0.037)
Observations	36,117	36,117	36,117	36,117	36,117
Prob > Chi2	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R2	0.0315	0.0324	0.0333	0.0338	0.0413

Note: The values in parentheses indicate the z ratio; asterisks indicate that the coefficient is significant at the *10%, **5%, and ***1% levels.

Table 5. Robustness check with 200 previous reviews

	Model (11)	Model (12)	Model (13)	Model (14)	Model (15)
RecomRatio	0.684***	0.892***	0.607***	0.885***	0.841***
	(0.039)	(0.040)	(0.038)	(0.040)	(0.040)
LgRevNum	0.097***	0.089***	0.099***	0.102***	0.088***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
TripAve	0.054***	0.051***	0.054***	0.050***	0.051***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
TripVar	−0.163***	−0.160***	−0.171***	−0.168***	−0.169***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
RecomRatio*TripAve		0.445***		0.273***	0.258***
		(0.039)		(0.040)	(0.040)
LgRevNum*TripAve		−0.025***		−0.031***	−0.037***
		(0.007)		(0.008)	(0.008)
RecomRatio*TripVar			−1.391***	−1.108***	−1.083***
			(0.112)	(0.114)	(0.114)
LgRevNum*TripVar			0.153***	0.201***	0.201***
			(0.017)	(0.019)	(0.019)
RevLen	−0.005***	−0.005***	−0.005***	−0.005***	−0.005***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
PicNum	0.130***	0.128***	0.129***	0.128***	0.132***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Device	YES	YES	YES	YES	YES
TravelType	YES	YES	YES	YES	YES
RoomType	YES	YES	YES	YES	YES
Hotel FE	NO	NO	NO	NO	YES
Month FE	NO	NO	NO	NO	YES
Constant	1.358***	1.399***	1.311***	1.384***	1.731***
	(0.030)	(0.032)	(0.031)	(0.032)	(0.042)
Observations	36,117	36,117	36,117	36,117	36,117
Prob > Chi2	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R2	0.0282	0.0294	0.0291	0.0300	0.0327

Note: The values in parentheses indicate the z ratio; asterisks indicate that the coefficient is significant at the *10%, **5%, and ***1% levels.

5. Conclusions and Implications

5.1 Discussion

Based on the unique hotel review data from eLong.com, which is embedded with consumer reviews from TripAdvisor.com, this study explores whether and how the embedded external reviews affect post-consumption evaluations and their moderating effect on the relationship between the internal eWOM on the OTA website and subsequent positive evaluations. Specifically, the average valence of the external reviews has a positive direct effect on consumers' subsequent positive evaluations and strengthens the positive influence of the positive internal review ratio while diminishing the positive effect of the internal review volume. The empirical results also show that embedded external reviews with high variance negatively affect consumers' subsequent positive evaluations. As the variance of the embedded reviews increases, the positive effect of the positive internal review ratio on subsequent tourist evaluations is

weakened while the effect of the internal review volume is strengthened.

5.2 Theoretical Implications

This study contributes to the literature in several ways. First, this study extends previous studies on eWOM-seeking behavior. Previous research on online reviews focused on the impact of posted reviews on subsequent ones from the perspective of social influence and expectation confirmation and indicated that online reviews are potentially biased (Guo & Zhou, 2016; Ho et al., 2017; Lee et al., 2015; Li et al., 2019). The current study proposes a novel perspective that embedded information source can directly stimulate the subsequent evaluation behavior, and also moderate the relationship between the original information source and the follow-up evaluation behavior. Thus, this work adds to the literature by confirming the crucial impact of embedded external reviews on the consumer behavior of posting positive evaluations.

Second, this study supplements the findings on affective priming effect by applying it to online reviews in the tourism industry. Previous research focused on the role of external information sources in purchase decisions in the e-commerce context (e.g., embedded pictures in product introduction; Wang et al., 2016). In this research, the research framework for studying the influence of external information on evaluative behavior and initial internal information were composed based on affective priming effects.

Third, the research findings reveal the moderating effect of the attributes (i.e., average review valence and review variance) of embedded external reviews. Previous studies mainly discussed the influence of external information on purchase decision, consumption intention and information search preference (Chi et al., 2021; Gursoy et al., 2017; Nieto-García et al., 2017; Turulja & Činjarević, 2021), as well as the relative influence of internal and external information on product sales (Gu et al., 2012; Gursoy et al., 2019). This study attempts to demonstrate that the consumer behavior of posting positive evaluations is jointly influenced by the consistency and inconsistency between the internal review information and embedded external reviews.

5.3 Practical Implications

Regarding the managerial and practical implications, though the data and analyses are specific to eLong.com and TripAdvisor.com, the research question answered in this study can be generalized to other online review platforms. The findings provide implications for how retailers and platforms should adapt their marketing strategies to deal with the relationship between embedded external reviews from peer-to-peer websites and internal reviews on OTA websites. The conclusions of this study also yield several managerial insights.

First, hotel managers and platform operators should reasonably introduce external review information from different sources and draw on the insights offered by online reviews on credible platforms to increase consumers' decision quality and satisfaction. For example, the high average valence of embedded external reviews can strengthen the effect of positive online reviews on internal platforms, thereby eliminating the necessity of piling up and loading surplus reviews.

Second, this research determines that the effect of external reviews is inconsistent, as it will weaken the construction of the internal review system in certain contexts. This study recognizes that high review variance is negatively related to the effect of prior praise. When faced with external reviews with highly diverse ratings, managers should distribute concern reasonably to boost the number of consumer reviews. Therefore, the issues of what and how to introduce and present embedded external review information should be explored further. Notably, external reviews can zoom in and zoom out specific parts of internal eWOM effects. Hence, a high external review average can substitute for the effects of the review volume, though consumers who have access to highly discrepant external reviews will require abundant reviews for reference.

Third, this study cautions against the commonly held view that prior travelers will generally positively help subsequent consumers' decision making. The results of this study can inform practitioners on an effective design for an online review system, wherein the ratio and volume of prior travelers' positive reviews can transfer product quality and informativeness to subsequent consumers. In such cases, online platforms and firm managers should be encouraged to provide effective and general review attributes to incentivize consumers' efficient checking. Moreover, because this effect is limited, consumers should combine peer reviews with their preferences to form reasonable and appropriate expectations of product and service quality before making a purchase. Specifically, credible and referential online review channels can reduce consumers' dissatisfaction and disappointment and foster objective and positive evaluations.

5.4 Limitations and Future Research

This study is subject to limitations. First, this study focuses only on one type of tourism service data, namely, accommodations, and the specific regional market of Beijing. Future studies should include other types of data in the tourism industry, such as attractions, to redress generalizability and testing to other cities in China. Second, this study does not consider travelers' differences. Reviewers' experiences may vary depending on demographic and psychographic differences, which can shed light on the submission of specific evaluations by prior and subsequent consumers in future research. Third, in one of the robustness tests, we utilize the interaction effect of variance of embedded reviews with the number of internal reviews and subsequent positive evaluations. Given the different findings, systematically examining why the effect is inconsistent and how external reviews can be embedded rationally into an online review system would be interesting. For example, in the establishment stage of an OTA website, the embedding of a number of online reviews from other credible and popular platforms to attract potential consumers and enhance consumers' perceived trust and decision quality will be crucial. After accumulating a considerable number of online reviews and consumers, managers should focus on the type of embedded review indicator. To address the limitations of the data, future studies can use an experimental design and investigate the black box of embedded external review system design.

Declaration of competing interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Acknowledgements

The authors acknowledge the support of research funds from the National Natural Science Foundation of China (72131005 and 72171062), and the Fundamental Research Funds for the Central Universities (HIT.OCEF.2023045).

ORCID iD

Ziqiong Zhang https://orcid.org/0000-0002-1337-5616
Le Wang https://orcid.org/0000-0002-8897-0612
Shuchen Qiao https://orcid.org/0000-0002-0495-5731
Zili Zhang https://orcid.org/0000-0002-2072-4626

References

Anderson, N. H. (1981). *Foundations of information integration theory*. New York: Academic Press.

Ayeh, J. K., Au, N., & Law, R. (2013). Do we believe in TripAdvisor? Examining credibility perceptions and online travelers' attitudes toward using user-generated content. *Journal of Travel Research*, *52*(4), 437-452.

Bigne, E., Chatzipanagiotou, K., & Ruiz, C. (2020). Pictorial content, sequence of conflicting online reviews and consumer decision-making: The stimulus-organism-response model revisited. *Journal of Business Research*, *115*, 403-416.

Blanca, H. O. (2018). Don't believe strangers: Online consumer reviews and the role of social psychological distance. *Information & Management*, *55*(1), 31-50.

Chan, I. C. C., Lam, L. W., Chow, C. W., Fong, L. H. N., & Law, R. (2017). The effect of online reviews on hotel booking intention: The role of reader-reviewer similarity. *International Journal of Hospitality Management*, *66*, 54-65.

Chen, P. Y., Hong, Y., & Liu, Y. (2018). The value of multidimensional rating systems: Evidence from a natural experiment and randomized experiments. *Management Science*, *64*(10), 4471-4965.

Cheng, X., Fu, S., Sun, J., Bilgihan, A., & Okumus, F. (2019). An investigation on online reviews in sharing economy driven hospitality platforms: A viewpoint of trust. *Tourism Management*, *71*, 366-377.

Chi, M., Pan, M., & Huang, R. (2021). Examining the direct and interaction effects of picture color cues and textual cues related to color on accommodation-sharing platform rental purchase. *International Journal of Hospitality Management*, *99*, 103066.

Del Chiappa, G., Lorenzo-Romero, C., & Alarcon-del-Amo, M. D. C. (2018). Profiling tourists based on their perceptions of the trustworthiness of different types of peer-to-peer applications. *Current Issues in Tourism*, *21*(3), 259-276.

Dellarocas, C., & Narayan, R. (2006). A statistical measure of a population's propensity to engage in post-purchase online word-of-mouth. *Statistical Science*, *21*(2), 277-285.

Duan, W., Gu, B., & Whinston, A. B. (2008). The dynamics of online word-of-mouth and product sales—An empirical investigation of the movie industry. *Journal of Retailing*, *84*(2), 233-242.

Feng, W., Liu, X., & Fang, E. (2015). User reviews variance, critic reviews variance, and product sales: An exploration of customer breadth and depth effects. *Journal of Retailing*, *91*(3), 372-389.

Filieri, R. (2016). What makes an online consumer review trustworthy? *Annals of Tourism Research*, *58*, 46-64.

Filieri, R., Alguezaui, S., & McLeay, F. (2015). Why do travelers trust TripAdvisor? Antecedents of trust towards consumer-generated media and its influence on recommendation adoption and word of mouth. *Tourism Management*, *51*, 174-185.

Goh, K. Y., Heng, C. S., & Lin, Z. (2013). Social media brand community and consumer behavior: Quantifying the relative impact of user-and marketer-generated content. *Information Systems Research*, *24*(1), 88-107.

Gu, B., Park, J., & Konana, P. (2012). The impact of external word-of-mouth sources on retailer sales of high-involvement products. *Information Systems Research*, *23*(1), 182-196.

Guo, B., & Zhou, S. (2016). Understanding the impact of prior reviews on subsequent reviews: The role of rating volume, variance and reviewer characteristics. *Electronic Commerce Research and Applications*, *20*, 147-158.

Gursoy, D. (2019). A critical review of determinants of information search behavior and utilization of online reviews in decision making process (invited paper for "luminaries" special issue of International Journal of Hospitality Management). *International Journal of Hospitality Management*, *76*, 53-60.

Gursoy, D., Del Chiappa, G., & Zhang, Y. (2017). Preferences regarding external information sources: A conjoint analysis of visitors to Sardinia, Italy. *Journal of Travel & Tourism Marketing*, *34*(6), 806-820.

Ho, Y. C., Wu, J., & Tan, Y. (2017). Disconfirmation effect on online rating behavior: A structural model. *Information Systems Research*, *28*(3), 626-642.

Hsieh, J. K., & Li, Y. J. (2020). Will you ever trust the review website again? The importance of source credibility. *International Journal of Electronic Commerce*, *24*(2), 255-275.

Hu, Y., & Kim, H. J. (2018). Positive and negative eWOM motivations and hotel customers' eWOM behavior: Does personality matter? *International Journal of Hospitality Management*, *75*, 27-37.

Huang, G. H., Chang, C. T., Bilgihan, A., & Okumus, F. (2020). Helpful or harmful? A double-edged sword of emoticons in online review helpfulness. *Tourism Management*, *81*, 104135.

Kanje, P., Charles, G., Tumsifu, E., Mossberg, L., & Andersson, T. (2020). Customer engagement and eWOM in tourism. *Journal of Hospitality and Tourism Insights*, *3*(3), 273-289.

Karlson, K. B., Holm, A., & Breen, R. (2012). Comparing regression coefficients between models using logit and probit: A new method. *Sociological Methodology*, *42*(1), 286-313.

Kim, K., Chung, K., & Lim, N. (2019). Third-party reviews and quality provisions. *Management Science*, *65*(6), 2695-2716.

Kim, W. H., & Chae, B. K. (2018). Understanding the relationship among resources, social media use and hotel performance: The case of Twitter use by hotels. *International Journal of Contemporary Hospitality Management*, *30*(9), 2888-2907.

Ladhari, R., & Michaud, M. (2015). eWOM effects on hotel booking intentions, attitudes, trust, and website perceptions. *International Journal of Hospitality Management*, *46*, 36-45.

Lee, Y. J., Hosanagar, K., & Tan, Y. (2015). Do I follow my friends or the crowd? Information cascades in online movie ratings. *Management Science*, *61*(9), 2241-2258.

Li, H., Zhang, Z., Meng, F., & Janakiraman, R. (2017). Is peer evaluation of consumer online reviews socially embedded? – An examination combining reviewer's social network and social identity. *International Journal of Hospitality Management*, *67*, 143-153.

Li, H., Zhang, Z., Meng, F., & Zhang, Z. (2019). "When you write review" matters: The interactive effect of prior online reviews and review temporal distance on consumers' restaurant evaluation. *International Journal of Contemporary Hospitality Management*, *31*(3), 1273-1291.

Li, X., & Hitt, L. M. (2008). Self-selection and information role of online product reviews. *Information Systems Research, 19*(4), 456-474.

Liu, H., Jayawardhena, C., Osburg, V. S., Yoganathan, V., & Cartwright, S. (2021). Social sharing of consumption emotion in electronic word of mouth (eWOM): A cross-media perspective. *Journal of Business Research*, *132*, 208-220.

Liu, Z., & Park, S. (2015). What makes a useful online review? Implication for travel product websites. *Tourism Management*, *47*, 140-151.

Ma, X., Khansa, L., Deng, Y., & Kim, S. S. (2013). Impact of prior reviews on the subsequent review process in reputation systems. *Journal of Management Information Systems*, *30*(3), 279-310.

Maheswaran, D., & Chaiken, S. (1991). Promoting systematic processing in low-motivation settings: Effect of incongruent information on processing and judgment. *Journal of Personality and Social Psychology*, *61*(1), 13-25.

Mellinas, J. P., Nicolau, J. L., & Park, S. (2019). Inconsistent behavior in online consumer reviews: The effects of hotel attribute ratings on location. *Tourism Management*, *71*, 421-427.

Mikhail, M. I., & James, A. (2002). Does a Seller's ecommerce reputation matter? Evidence from eBay auctions. *The Journal of Industrial Economics*, *50*(3), 337-349.

Miyazaki, A. D., Grewal, D., & Goodstein, R. C. (2005). The effect of multiple extrinsic cues on quality perceptions: A matter of consistency. *Journal of Consumer Research*, *32*(1), 146-153.

Murphy, S. T., & Zajonc, R. B., (1993). Affect, cognition, and awareness: affective priming with optimal and suboptimal

stimulus exposures. *J Pers Soc Psychol*. *64*(5), 723-739.
Narwal, P., & Nayak, J. K. (2020). How consumers form product quality perceptions in absence of fixed posted prices: Interaction of product cues with seller reputation and third-party reviews. *Journal of Retailing and Consumer Services*, *52*, 101924.
Nieto-García, M., Muñoz-Gallego, P. A., & González-Benito, Ó. (2017). Tourists' willingness to pay for an accommodation: The effect of eWOM and internal reference price. *International Journal of Hospitality Management*, *62*, 67-77.
Nuriman Izudin, A., Ruswanti, E., & Unggul Januarko, M. (2020). The effect of YouTube eWOM on consumer buying interest (El efecto del boca a boca electrónico en el interés de compra de los consumidores). *Revista CEA*, *6*(12).
Park, S. B., & Park, D. H. (2013). The effect of low- versus high-variance in product reviews on product evaluation. *Psychology & Marketing*, *30*(7), 543-554.
Park, S., Yang, Y., & Wang, M. (2019). Travel distance and hotel service satisfaction: An inverted U-shaped relationship. *International Journal of Hospitality Management*, *76*, 261-270.
Peng, C. Y. J., Lee, K. L., & Ingersoll, G. M. (2002). An introduction to logistic regression analysis and reporting. *Journal of Educational Research, 96*(1), 3-14.
Rao, A. R., & Monroe, K. B. (1988). The moderating effect of prior knowledge on cue utilization in product evaluations. *Journal of Consumer Research*, *15*(2), 253-264.
Richardson, P. S., Dick, A. S., & Jain, A. K. (1994). Extrinsic and intrinsic cue effects on perceptions of store brand quality. *Journal of Marketing*, *58*(4), 28-36.
Sheafer, T. (2007). How to evaluate it: The role of story‐evaluative tone in agenda setting and priming. *Journal of Communication*, *57*(1), 21-39.
Turulja, L., & Činjarević, M. (2021). How customer-driven and vendor-driven information cues shape a travel app user behaviour? *Journal of Hospitality and Tourism Technology, 12*(4), 745-761. https://doi.org/10.1108/JHTT-02-2020-0044.
Wang, Z., Li, H., Ye, Q., & Law, R. (2016). Saliency effects of online reviews embedded in the description on sales: Moderating role of reputation. *Decision Support Systems*, *87*, 50-58.
Wen, J., Hu, Y., & Kim, H. J. (2018). Impact of individual cultural values on hotel guests' positive emotions and positive eWOM intention: Extending the cognitive appraisal framework. *International Journal of Contemporary Hospitality Management*, *30*(3), 1769-1787.
Xie, K. L., Zhang, Z., Zhang, Z., Singh, A., & Lee, S. K. (2016). Effects of managerial response on consumer eWOM and hotel performance: Evidence from TripAdvisor. *International Journal of Contemporary Hospitality Management*, *28*(9), 2013-2034.
Yan, Q., Zhou, S., & Wu, S. (2018). The influences of tourists' emotions on the selection of electronic word of mouth platforms. *Tourism Management*, *66*, 348-363.
Yan, Z., Xing, M., Zhang, D., & Ma, B. (2015). EXPRS: An extended pagerank method for product feature extraction from online consumer reviews. *Information & Management*, (7), 850-858.
Yang, S. B., Hlee, S., Lee, J., & Koo, C. (2017). An empirical examination of online restaurant reviews on Yelp.com. *International Journal of Contemporary Hospitality Management*, *29*(2), 817-839.
Ye, Q., Law, R., & Gu, B. (2009). The impact of online user reviews on hotel room sales. *International Journal of Hospitality Management*, *28*(1), 180-182.
Yi, Y. (1990). The Effects of Contextual Priming in Print Advertisements. *Journal of Consumer Research*, *17*(2), 215-222.
Yoo, K.H., & Gretzel, U. (2009). Comparison of deceptive and truthful travel reviews. In W. Höpken, U. Gretzel, & R. Law (Eds.), *Information and Communication Technologies in Tourism 2009*. Vienna: Springer. https://doi.org/10.1007/978-3-211-93971-0_4
Zheng, X., Zhu, S., & Lin, Z. (2013). Capturing the essence of word-of-mouth for social commerce: Assessing the quality of online e-commerce reviews by a semi-supervised approach. *Decision Support Systems*, *56*(6), 211-222.
Zheng, X., Cao, J., Hong, Y., Yang, S., & Ren, X. (2022). Differential effects of multi-dimensional review evaluations on product sales for mainstream vs. niche products. *MIS Quarterly*. Forthcoming.
Zhu, F., & Zhang, X. (2010). Impact of online consumer reviews on sales: The moderating role of product and consumer characteristics. Journal of Marketing, 74(2), 133-148.

Author Biographies

Ziqiong Zhang (Ph.D.) Dr. Ziqiong Zhang is currently a professor at the School of Economics and Management at Harbin Institute of Technology, China. Her research focuses on the fields of web user-generated content mining, business intelligence, e-commerce, and consumer behavior.

Le Wang is a doctoral candidate at Harbin Institute of Technology, China. Her research interests include management reviews, information systems, and e-commerce analysis.

Shuchen Qiao (Ph.D.) Dr. Shuchen Qiao is an assistant professor in the College of Management at Shenzhen University, China. Her research focuses on online marketing, user-generated content, and e-commerce.

Zili Zhang (Ph.D.) Dr. Zili Zhang is currently a professor at the School of Economics and Management at Harbin Institute of Technology, China. His research focuses on Internet finance, behavioral finance, risk management, information management, and business data analysis.