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Antecedents and Consequents of Trustworthiness in User-Generated Online Reviews: A case of the Travel Industry

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ABSTRACT

Despite the recent interest in user-generated online reviews, understanding how various dimensions of ‘the message’ (online review) may affect consumers’ perceptions of a review’s trustworthiness, and whether the latter shapes attitudes and subsequent behaviors. To fill this gap, a 2x2x2 scenario-based online experiment was designed exposing participants to real user-generated TripAdvisor.com reviews, and an online questionnaire was used to evaluate antecedents and consequents of review trustworthiness. Using PLS-based structural equation modeling (SEM), our findings offer a comprehensive framework of the review characteristics—timeliness, accuracy, and reviewer credibility—that drive overall perceptions of review trustworthiness and jointly predict nearly 50% of the variance in this construct. Furthermore, our findings show that the mediating role of review usefulness on the relationship between trustworthiness and brand attitude is further moderated by the sentiment of the reviews—positive and negative. Brand attitude ultimately predicts over 80% of the variance in booking intention.

Keywords

Online reviews; eWOM; timeliness; accuracy; credibility; trustworthiness; usefulness; brand attitude; booking intention.

1. INTRODUCTION

In today’s information era, online reviews appear to be an integral part of consumer behavior. For the Travel sector, TripAdvisor.com (hereafter, TripAdvisor) is the go-to website by travellers seeking to acquire information, plan, and book their travel arrangements. Yet, despite the recent interest in user-generated online reviews, there is a lack of research exploring the link between the characteristics of user-generated online reviews—such as their timeliness and accuracy—and a consumer’s perception of the trustworthiness of the review, which may ultimately drive attitudes towards the brand and subsequent behaviors—

including making a reservation. To fill this gap, this study answers the following research questions: *What is the effect of three online review characteristics—timeliness, accuracy, and reviewer credibility—on the perceived trustworthiness of that review? What is the impact of perceived trustworthiness of a review on attitudes and intended behaviors toward the brand, including brand attitude and booking intention?*

2. THEORETICAL BACKGROUND

2.1 Online Reviews and Electronic Word-of-Mouth

Electronic word-of-mouth (eWOM), which refers to “any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multiple of people and institutions via the Internet” (Stauss, 2000). Online review websites are useful platforms through which reviewers are able to post and share their thoughts and opinions about products, services and businesses in general. The final purpose is to provide other and future users with personal and candid experiences in order to give them more detailed information not easily accessible through official websites or traditional forms of advertising. This phenomenon has progressively increased throughout the years and nowadays even official brand websites include testimonials and reviews from real customers to lend credibility and authenticity to the quality of their brand.

The drastic migration to online WOM (eWOM) represents an evolution in how consumers collect and access information (O’Connor, 2010). According to several studies (c.f., Liang et al., 2013), eWOM is more effective than traditional WOM and has brought several benefits: free efficient channels of distribution, capacity to spread rapidly, unlimited audience, large availability of comments accessible to users, long online permanence and anonymity which can help both the reader and the author as the former is less keen to be influenced as it may happen with experiences shared by friends and acquaintances and the latter feels free to share his/her

candid opinions, either positive or negative (Bellman et al., 2006; Puri, 2007; Stringam and Gerdes, 2010).

2.2. User-Generated Content and the Hospitality Industry

As for the hotel industry, the growth of social media has progressively changed customers’ information search preferences and behaviors. Current research related to the travel industry has shown a great influence of eWOM among online users, meaning that hoteliers have switched their attention from traditional marketing channels to online and interpersonal strategies to take advantages of the opportunities offered by eWOM (O’Connor, 2010).

Several studies have begun to explore the principal features and elements of online reviews. For instance, some researchers have focused on the effects review features on hotel reservations (Racherla and Friske, 2012) or restaurant selection intention (Jeong and Jang, 2011). Other studies have studied the review rating system (Boon et al., 2014; Aicher et al., 2016) adopted by online platforms. However, none of these studies have offered a more comprehensive framework of review characteristics and their effect on perceptions of overall review trustworthiness. The present research aims to fill this gap by studying online reviews shared on TripAdvisor, specifically analyzing three characteristics of online reviews simultaneously, namely timeliness, accuracy, and reviewer credibility.

3. RESEARCH MODEL AND HYPOTHESES

Although many characteristics of reviews exist; in this study we focus on four such characteristics, namely review sentiment, timeliness, accuracy, and reviewer credibility, to offer a more holistic model of drivers of overall assessments of review trustworthiness (also see Figure 1).

H1: The more timely (i.e., recent) the review, the higher the perceived trustworthiness.

H2: Review information accuracy positively impacts the trustworthiness of the review.

H3: Reviewer credibility positively affects the trustworthiness of the review

H4: The higher the perceived trustworthiness of a review, the higher its perceived usefulness.

H5: Perception of greater information usefulness associated with a review will positively affect attitude towards the brand, if the review is positive in nature.

H6: The more positive the attitude towards a brand, the higher the booking intention.

Building on the aforementioned hypotheses, the proposed research model is shown in Figure 1 below:



Figure 1. Proposed Research Model

4. RESEARCH DESIGN

This study uses a 2 (Positive vs. Negative) * 2 (Recent vs. Old) * 2 (High credibility vs. Low credibility) experimental design. Therefore, eight groups have been created and for each group three hotel reviews have been selected, for a total of forty-eight reviews. The experimental groups and their respective conditions are listed in Table 1 below.

The specific hotel from which we selected reviews was the *Travelodge London Kings Cross Royal Scot* hotel, which has over 2.500 reviews on TripAdvisor, 2.170 of which are in English. Furthermore, according to the bubble ranking system adopted by TripAdvisor, this hotel has three bubbles out of five, meaning that it has an average reputation so that it includes both negative and positive reviews, which we needed in order to be able to select reviews for the experimental conditions. In particular, on October 25th, the hotel had 985 positive (4 bubbles = very good or 5 bubbles = excellent) reviews and 578 negative (2 bubbles = poor or one bubble = terrible) reviews.

Experimental Condition	Sample Review Title
Group 1: Positive + Recent + Credible	“Good location (close to metro and bus) and good value for budget stay”
Group 2: Negative + Recent + Credible	“Where to begin...”
Group 3: Positive + Recent + Non-credible	“Lovely staff!”
Group 4: Negative + Recent + Non-credible	“Worst hotel experience in my life”
Group 5: Positive + Old + Credible	“Great value and comfort”
Group 6: Negative + Old + Credible	“DATED AND SHABBY”
Group 7: Positive + Old + Non-credible	“Comfort from the chaos of travelling to Kings Cross”
Group 8: Negative + Old + Non-credible	“Worst hotel stay ever”

Table 1. Experimental Groups and Conditions With Sample Review Titles

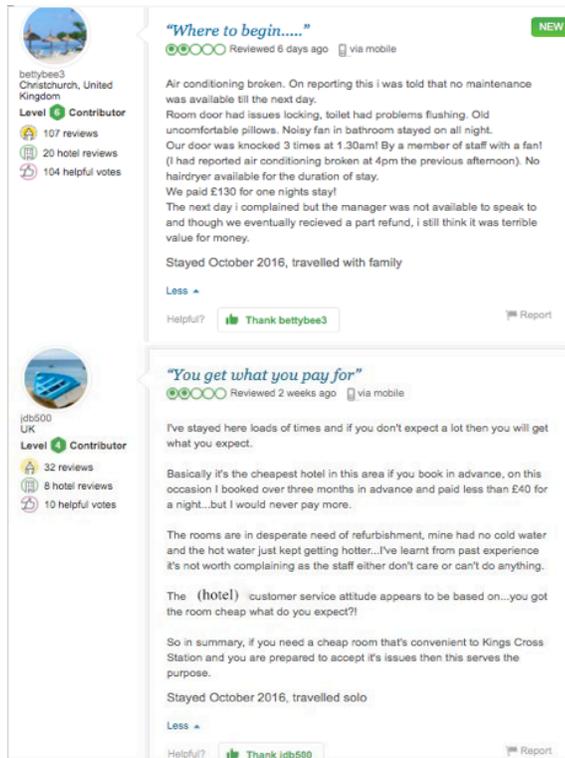


Figure 2. Sample Experimental Condition

4.3 Operationalization of Constructs

In order to collect data, a questionnaire has been distributed online. Each construct from the research model (Figure 1) was measured using previously validated scales, summarized in Table 2.

Construct	Description	Sample Item (7-point Likert)	Reference
Review Timeliness	The respondent’s perception of the recency of the provided information	“The reviews are current”	Wixom and Todd (2005)
Review Accuracy	The respondent’s perception that the information is correct	“Information provided is correct”	Wixom and Todd (2005)
Reviewer Credibility	The respondent’s perception of the trustworthiness of the reviewer	“The person who wrote the review was knowledgeable in evaluating the hotel”	Bhattacharjee and Stanford (2006)
Review Usefulness	The respondent’s perception of the value of the information provided	“To what extent is the review trustworthy?”	Griskevicius et al. (2006)
Brand Attitude	The respondent’s inner feelings of liking or disliking a brand	“Overall my impression of this hotel is” (strongly positive/negative)	Bailey and Pearson (1983)
Booking Intention	The respondent’s likelihood of completing the booking	“If I needed a hotel room in the near future, I would consider reserving one from this hotel”	Lee et al. (2010)
Brand Attitude	The respondent’s inner feelings of liking or disliking a brand	“Overall my impression of this hotel is” (strongly positive/negative)	Everard and Galletta (2005)

Trustworthiness	respondent's perception of the credibility of the review	extent is the review trustworthy?"	s et al. (2006)
Review Usefulness	The respondent’s perception of the value of the information provided	“The information provided is valuable”	Bailey and Pearson (1983)
Brand Attitude	The respondent’s inner feelings of liking or disliking a brand	“Overall my impression of this hotel is” (strongly positive/negative)	Lee et al. (2010)
Booking Intention	The respondent’s likelihood of completing the booking	“If I needed a hotel room in the near future, I would consider reserving one from this hotel”	Everard and Galletta (2005)

Table 2. Operationalization of constructs

5. ANALYSIS AND RESULTS

Following the data screening and cleaning, the final sample of 355 valid responses was imported in SmartPLS for Confirmatory Factor Analysis to validate the measurement model and Path Modeling for hypothesis testing. Construct statistics, including model fit, AVE and factor loadings demonstrated adequate convergent validity and an examination of cross-loadings, latent variable correlations, and the output of a Fornell-Larcker test demonstrated adequate discriminant validity.

Using SmartPLS (v 3.2.4) Bootstrapping, we then tested our hypotheses. The summary of our results are provided in Table 6 and Figure 3 below. Post-hoc manipulation tests were also conducted, showing that all experimental manipulations were successful, as follows: review sentiment (F = 11.240; p= 0.001); review timeliness (F=11.267, p = 0.001), and reviewer credibility (F=11.372; p = .001).

Hyp.	Regr. Weights	T-Statistic	Result
H1:	0.107	1.991**	Supported
H2:	0.273	4.447***	Supported
H3:	0.430	6.799***	Supported
H4:	0.651	17.935***	Supported
H5:	0.506	7.326***	Supported
H6:	0.906	63.352***	Supported

** = significant at p = .05; *** = significant at p = .001

Table 6. Hypotheses Testing

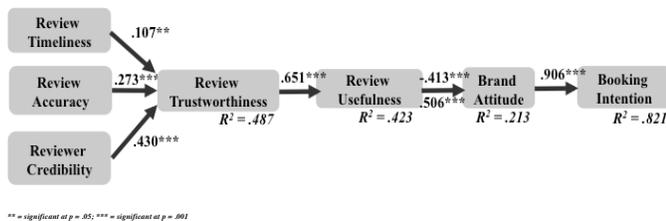


Figure 3. Validated Research Model

6. DISCUSSION

Two sets of findings emerged from our study. First, with respect to our primary research question about the impact of review characteristics on perceived trustworthiness of a review, all three structural characteristics of reviews were found to significantly predict review trustworthiness, with reviewer credibility being the strongest predictor, followed by accuracy and then timeliness. Thus, when users interact with platforms like *TripAdvisor*, it seems that the critical factor in determining how users judge the overall trustworthiness of the review is foremost whether or not the reviewer is an expert reviewer, followed by the accuracy of the information provided and then the timeliness of the review. Whether or not the review was written recently or positively does not seem to affect users in their perceptions of overall trustworthiness. Second, with respect to our secondary research question pertaining to the effect of trustworthiness on attitudes and behaviors toward the brand, we obtained support for the mediating role of review usefulness and an important interaction effect between it and review sentiment (i.e., positive or negative reviews) on brand attitude and subsequent booking intentions.

6.1 Limitations and Future Research

Since the main aim of this study was to propose a comprehensive model of the characteristics of reviews that ultimately drive a user to conclude whether or not the advice offered by a reviewer is trustworthy and should be acted upon; this study focused on four such characteristics—review sentiment, timeliness, accuracy, and reviewer credibility – and in turn their effects on trustworthiness, we did not explore further downstream effects of trustworthiness, for instance, on the attitudes toward the property and likelihood of booking a room in that property. Future research should explore these effects and assess if trustworthiness ultimately drives attitudes and behaviors toward to property.

The second limitation pertains to the choice of only a single hotel for the purpose of the study. Future experiments could be designed to offer respondents different hotels with different types of reviews (based on the scenarios used in this study) and offer them a choice of hotels. Furthermore, even though hotels and accommodations represent *TripAdvisor*'s largest business, the platform is also well known for reviews about restaurants and other types of attractions. Therefore,

it would be interesting to conduct similar analyses for other types of venues and explore if the review factors that have the greatest predictive power—i.e., reviewer credibility and accuracy—remain the same or whether these are venue-specific. Specifically, the tremendous variance explained for the ultimate dependent variable—booking intention—highlights that perhaps the impact of online reviews is greater for hotels than other venues or perhaps for tourism vis-à-vis other industries. This is something that could be explored in future research.

The third limitation pertains to our focus on the *TripAdvisor* platform, which present a platform where the review characteristics—such as reviewer credibility—are relatively visible. Other platforms, such as *Booking.com*, may give different visibility or prominence to these review characteristics, which could therefore alter the relative magnitude of each review characteristics vis-à-vis overall perceived trustworthiness.

Furthermore, although we tried to be comprehensive in including review characteristics, certain characteristics of reviews have not been considered yet, such hotel management responses. The traditional marketing literature has heavily studied responses by business in the context of written (i.e., offline) consumer complaints to how future replies by the same consumers as well as repurchase intention and positive word-of-mouth are affected by strategic responses by the business to customer correspondence (c.f., Shields, 2006).

Finally, future research could further explore interaction effects between characteristics of the review and of the property (e.g., hotel star ratings), to see if particular review characteristics are more salient for specific types of properties (e.g., luxury properties). Along the same lines, an interesting question to explore is the interaction effect between brand familiarity and review characteristics; e.g., unknown properties versus those from a major franchise (e.g., Hilton or Four Seasons) may experience greater impact due to online reviews. Additionally, interaction effects among review characteristics can also be explored. For instance, perhaps review sentiment only matters when reviewers are experts versus novices or maybe accuracy of the review is only important in the context of a non-recent review.

6.2 Research and Practical Contributions

From a research perspective, the findings of this study are relevant in that they shed light onto the different characteristics of reviews that result in overall perceptions of review trustworthiness and the magnitude of their influence on perceptions of review trustworthiness, with reviewer credibility and review accuracy being the most critical predictors. Furthermore, this comprehensive operationalization of review structures can guide future researchers interested in measuring these various dimensions and their relative impact in terms of attitudinal and behavioural outcomes. Additionally, an

impactful finding that emerged from our study is that positive reviews that are perceived as trustworthy, and in turn, useful have a stronger positive impact on brand attitude than the negative effect on brand attitude due to negative reviews with the same level of perceived trustworthiness and usefulness. This finding contrasts much of the literature on eWOM (Park and Lee, 2009; Chevalier and Mayzlin, 2006) as well as the broader literature on trust and distrust in consumer research (Pavlou and Gefen, 2004), which has generally highlighted that negative reviews and the brand distrust stemming from these have a greater impact on consumer decision-making.

From a practical viewpoint, the findings of this study reveal three factors influencing prospective consumers' perceptions of online reviews' trustworthiness. First, as the reviewer's credibility is the strongest predictor of said trustworthiness, hoteliers would be well served if they can identify travellers among their guests who are frequent reviewers, and incentivize their endorsement on a travel review site. Second, given the importance of review accuracy, hoteliers could also engage in the online reviews by either validating information as provided by reviewers, extending this information, or correcting misinformation as provided by the reviewers. Lastly, given the importance of a review's timeliness, hoteliers should prompt their guests to review their reviews on a regular basis so that there is a consistent stream of online reviews available. The importance of these practical implications is further underscored by the fact that more than 80% of the variance in booking intention is ultimately driven by the attitude a potential customer forms about the property following reviews that are perceived as trustworthy and useful.

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