

## **Is TripAdvisor still relevant? The influence of review credibility, review usefulness, and ease of use on consumers' continuance intention**

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### **Abstract**

**Purpose** – Recent figures show that users are discontinuing their usage of TripAdvisor, the leading user-generated content (UGC) platform in the tourism sector. Hence, it is relevant to study the factors that influence travelers' continued use of TripAdvisor.

**Design/methodology/approach** – We have integrated constructs from the Technology Acceptance Model, Information Systems (IS) Continuance Model, and eWOM literature. We used PLS-SEM (smartPLS V.3.2.8) to test our hypotheses using data from 297 users of TripAdvisor recruited through Prolific.

**Findings** – Findings reveal that perceived ease of use, online consumer review (OCR) credibility, and OCR usefulness have a positive impact on customer satisfaction, which ultimately leads to continuance intention of UGC platforms. Customer satisfaction mediates the effect of the independent variables on continuance intention.

**Practical implications** – Managers of UGC platforms (i.e. TripAdvisor) can benefit from the findings of this study. Specifically, they should improve the ease of use of their platforms by facilitating travelers' information searches. Moreover, they should use signals to make credible and helpful content stand out from the crowd of reviews.

**Originality/value** – This is the first study that adopts the IS Continuance Model in the travel and tourism literature to research the factors influencing consumers' continued use of travel-based UGC platforms. Moreover, we have extended this model by including new constructs

that are particularly relevant to UGC platforms, such as performance heuristics and OCR credibility.

**Keywords** – eWOM; perceived review usefulness; perceived review credibility; performance heuristics; customer satisfaction; technology continuance intention

## **1. Introduction**

Reading online consumer reviews (OCRs) before a purchase has become a habit for many consumers. OCRs, the textual format of electronic word of mouth (eWOM), have become influential at the different stages of consumers' decision-making: from information search to alternatives evaluation and from purchase decision to post-purchase (Fileri *et al.*, 2018b; Dedeoğlu *et al.*, 2020). TripAdvisor.com, a Boston-based company founded in 2000, pioneered travel-based eWOM (Litvin *et al.*, 2018) by enabling, for the first time, travelers to leave feedback (i.e. consumer review) about their experience with accommodation.

TripAdvisor is a game-changer in the travel and tourism industry by becoming, in a few years, the largest online travel guide, with 411 million visitors visiting every month to browse over 700 million travel reviews available (TripAdvisor, 2019; Gretzel and Yoo, 2008). The platform provides reviews, ratings, photos, and forums about the services associated with planning a trip, such as tour guides, car rentals, tourist attractions, restaurants, and accommodations.

However, TripAdvisor's average monthly unique users have been falling from 490 million in 2018 to 411 million in the first quarter of 2019 (Bhagat, 2019; Dedeoğlu *et al.*, 2020). Industry experts say one of the reasons behind the fall could be the aggressive competition in Google (Singh, 2019). Google reviews about hospitality services have been steadily growing and have become the favorite platform for mobile searches, which has

driven traffic away from TripAdvisor (Singh, 2019; Gurman and Carville, 2020). Another reason could be that consumers' trust in TripAdvisor has fallen in recent years, mainly due to high-profile stories of fake and promotional reviews posted on the website (Filieri, 2016; The Guardian, 2019). Hence, it is relevant, from both a managerial and an academic perspective, to understand whether this platform will continue to be a leading actor in the travel and tourism industry.

Travel and tourism scholars have mainly focused on consumers' technology initial adoption. Existing studies have researched the factors influencing restaurant customers' adoption of food mobile applications (Okumus *et al.*, 2018) as well as travelers' adoption of user-generated content (e.g. Ayeh *et al.*, 2013; Filieri and McLeay, 2014) and travel technology like mobile apps (Morosan, 2014; Gupta *et al.*, 2018; Lu *et al.*, 2015; Young Im and Hancer, 2014). Yet, a limited number of studies have investigated technology continuance intention in the travel and tourism industry (Jung *et al.*, 2018; Ozturk *et al.*, 2016a, b; Ukpabi *et al.*, 2019).

In the information systems (IS) literature, scholars contend that successful technology adoption depends on continuance intention rather than initial technology adoption (Bhattacharjee, 2001). Drawing on the expectation-confirmation theory (Oliver, 1980), Bhattacharjee (2001) developed the Information Systems/Technology (IS/IT) Continuance Model to explain the factors influencing users' continuance intention of IS. The IS/IT Continuance Model has been applied to different contexts, such as online banking, mobile commerce, mobile payments, mobile apps, social networking websites, e-learning systems, online flight check-in, blogging, virtual communities, chatbots, and many more (e.g. Ashfaq *et al.*, 2020; Gan and Li, 2018; Gao *et al.*, 2015; Kim, 2011; Liang *et al.*, 2011; Lin and Filieri, 2015; Roca and Gagné, 2008; Talwar *et al.*, 2020).

Despite the relevance of the topic, there is a scarcity of research on the drivers of user's continuance intention in the travel and tourism industry. To fill this gap, we adopt, for the first time in the travel and tourism research context, the IS/IT Continuance Model (usefulness, satisfaction) (Bhattacharjee, 2001) to study the continuance intention of UGC platforms. Our theoretical contribution lies in expanding the model by including constructs from the Technology Acceptance Model (TAM) (i.e. ease of use); and relevant constructs from the eWOM literature, such as performance heuristics, perceived online consumer review (OCR) usefulness, and credibility, which have been consistently found to influence travelers' intention and behavior (Chakraborty, 2019; Cheung *et al.*, 2008; Cheung *et al.*, 2009; Filieri, 2015; Filieri *et al.*, 2018a; Park and Nicolau, 2015; Viglia *et al.*, 2016; Ye *et al.*, 2011).

## **2. Literature review and theoretical framework**

### *2.2. TAM and the IS/IT Continuance Intention Model*

The Technology Acceptance Model (TAM) is one of the most influential and well-recognized frameworks in information systems research (Benbasat and Barki, 2007). Davis' TAM (1989) includes two key constructs: perceived usefulness (PU) and perceived ease of use (PEOU). PU and PEOU are both argued to be key determinants of user acceptance of technologies, as they affect attitudes towards using a particular technology, which, in turn, influences the user's intention to adopt it. PU is defined as 'the degree to which a person believes that using a particular technology will enhance his or her job performance', while PEOU refers to 'a user's perception of how easily a particular application can be used' (Davis, 1989, p. 320). TAM constructs have been frequently used to explain technology adoption in several contexts (Wu and Chen, 2017).

Drawing upon the Expectation-Confirmation Theory (ECT) (Oliver, 1980) and the TAM (Davis, 1989), Bhattacharjee (2001) developed the IS/IT Continuance Model to explain

post-adoption behavior. Bhattacharjee (2001) noticed that technology acceptance models did not fully explain observed IS continuance behavior and that continued use, rather than first-time use, indicates its successful implementation (Bhattacharjee, 2001). The IS/IT Continuance Model explains that, after initial use, users' perceptions of information systems usefulness and satisfaction may change, leading to either repeated behavior or discontinued usage (Bhattacharjee, 2001; Limayem *et al.*, 2007). Bhattacharjee (2001) developed a model in which confirmation of prior expectations and perceived usefulness (expectations of benefits from future usage), and overall evaluations of the outcomes following prior usage – often referred to as user satisfaction – represent the key antecedents of continuance intention.

The IS/IT continuance intention model has been adopted to explain technology continued use in a variety of research settings, including mobile apps (Lu *et al.*, 2015), question and answer communities (Fang and Zhang, 2019), e-learning platforms (Roca and Gagné, 2008), cloud computing (Yang and Lin, 2015), online banking (Bhattacharjee, 2001), web 2.0 (Chen *et al.*, 2012), social media (e.g. Gan and Li, 2018; Jung *et al.*, 2018; Kim, 2011; Liang *et al.*, 2011; Mouakket, 2015; Oliveira *et al.*, 2016), blogs (Shiau and Luo, 2013; Tang *et al.*, 2014), online knowledge transfer (e.g. Fang and Chiu, 2010; Zheng *et al.*, 2013); chatbots (Ashfaq *et al.*, 2020); online flight check-in (Lin and Filieri, 2015); mobile payments (Talwar *et al.*, 2020).

However, the IS/IT Continuance Model has not yet been adopted in research on technologies adopted by travelers (Jung *et al.*, 2008) and specifically on travel-based UGC platforms. UGC platforms like TripAdvisor have fostered eWOM, namely consumers' sharing of positive, negative, neutral feedback about a product, service, or organization. Travel and tourism scholars have mostly focused on the factors affecting the initial adoption of a technology (e.g. Ayeh *et al.*, 2013; Gupta *et al.*, 2018; Law *et al.*, 2019; Lu *et al.*, 2015; Okumus *et al.*, 2018; Tom Dieck *et al.*, 2017), while few studies have been carried out on CI.

Leung and Bai (2013) study revisit intention and found that involvement with the hotel social media page affects travelers' intention to revisit the hotel's social media account. Drawing upon motivation theory and self-determination theory, Ozturk *et al.* (2016a) reveal that utilitarian value and hedonic value are significant antecedents of consumers' CI of mobile hotel booking technology (apps and websites). Jung *et al.* (2018) assess the role of trust, perceived benefits, and perceived enjoyment on continued social media use, revealing that these constructs mediate the relationship between interaction, ubiquity, and continued use of social media. Ukpabi *et al.* (2019) investigated the role of offline activities and customer value creation on tourists' continued use of online travel communities. Kang and Namkung (2019) integrated the theory of privacy calculus and the TAM for researching customers' responses toward personalization in the context of mobile branded apps. From the review of this literature, it is evident that there is a dearth of studies on the determinants of CI of travel-based UGC platforms. By integrating TAM (i.e. ease of use), the IS/IT Continuance Model (i.e. usefulness, customer satisfaction) (Bhattacharjee, 2001), and eWOM constructs (i.e. perceived OCR credibility and performance heuristics), we aim to make a theoretical contribution to both the travel and tourism as well as the IS/IT literature.

Consumer ratings are performance heuristics typical of user-generated and social commerce platforms (Filieri and McLeay, 2014; Sparks and Browning, 2011). By helping consumers rapidly identify the options that are best for them (based on many other users' evaluations), consumer ratings may drive customer satisfaction and CI of UGC platforms. Previous studies have shown the significant influence of consumer ratings on consumer behavior, including booking intentions, consumer choice, information evaluation, and adoption (e.g. Filieri and McLeay, 2014; Filieri, 2015; Sparks and Browning, 2011; Ye *et al.*, 2011; Filieri *et al.*, 2020). Another stream of research has proved that ratings also affect business performance indicators such as hotel sales and occupancy rates (e.g. Raguseo and

Vitari, 2017; Viglia *et al.*, 2016). Travelers adopt and follow the purchase recommendations contained in OCRs because they are diagnostic information, that is, they help consumers understand the quality and performance of products and services before buying them (e.g. Filieri, 2015; Mariani and Borghi, 2020). Moreover, travelers adopt OCRs because they view them as honest and reliable accounts about customer's experience with products and services (e.g. Cheung *et al.*, 2009; Filieri, 2016). Furthermore, we also included perceived ease of use of online reviews, a TAM factor that has been used to explain technology adoption and trust in previous studies on TripAdvisor (Ayeh *et al.*, 2013) and e-commerce research (e.g. Ahn *et al.*, 2007). However, little research has adopted TAM (Davis, 1989) to explain technology's continued usage (Wang *et al.*, 2013; Wu and Chen, 2017).

### **3. Hypotheses Development**

#### *3.1. Perceived review credibility*

Services are intangible, perishable, heterogeneous, and inseparable, and consumers cannot evaluate them objectively before buying or trying them (Mitchell and Greatorex, 1993; Litvin *et al.*, 2018). These characteristics of services increase the level of risk embedded in their purchase (Murray and Schlacter, 1990). Thus, obtaining reliable information is particularly important to reduce risk in travelers' decision-making (Lin *et al.*, 2009). Over the years, OCRs represent a critical information source for travelers to evaluate travel services before experiencing them (Filieri, 2016; Dedeoğlu *et al.*, 2020). OCRs are deemed to provide honest feedback from customers who have already purchased a travel service. Much research on eWOM has focused on source credibility theories (e.g. Filieri, 2015; Lo and Yao, 2019), neglecting the role of message credibility. Review message credibility is defined as the consumers' perception that the information contained in a review is 'believable, true, or

factual' (Cheung *et al.*, 2009, p. 12). Reviewers can post two-sided reviews, including both positive and negative feedback about the services they experienced.

In advertising and eWOM research, scholars revealed that two-sided reviews improve the perceived credibility as well as the perceived helpfulness of information (Filieri *et al.*, 2018b) and the effectiveness of advertisements (Kamins *et al.*, 1989). Scholars have also demonstrated that perceived message credibility is one of the most important antecedents of recommendation adoption (Cheung *et al.*, 2009) and purchase intention (Filieri, 2016; Chakraborty, 2019). Drawing on these studies, we argue that if consumers consistently obtain reliable information, their willingness to reuse the same platform in the future will increase. Accordingly, the confirmation of the expectation regarding the reliability of the information in OCRs will also reduce consumers' perceived risk. Furthermore, consumers mainly focus on the message and use several cues when they try to assess the credibility of online reviews for high involvement purchases (Filieri, 2016). By providing credible information, UGC platforms can also reduce information processing time and consumer's cognitive effort (Bellman *et al.*, 2006), which would eventually drive satisfaction and intention to reuse the platform in the future. Thus, we hypothesize:

*Hypothesis 1a: Perceived review credibility has a positive impact on customer satisfaction (CS).*

*Hypothesis 1b: Perceived review credibility has a positive impact on CI.*

### *3.2. Perceived review usefulness*

Perceived usefulness is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989, p. 320). Perceived usefulness is one of the most critical determinants of technology adoption, and it is a key construct in the TAM (Davis, 1989), as well as in the IS/IT Continuance Model (Bhattacharjee, 2001). Previous studies found that perceived usefulness significantly affects



user satisfaction (Lee and Kwon, 2011) and continuance intention (e.g. Al-Maghrabi *et al.*, 2011; Bhattacharjee, 2001; Kim, 2011; Liao *et al.*, 2007; Mouakket, 2015; Tang *et al.*, 2014). In this study, perceived usefulness refers to the review content and not to the technology or platform itself. It is the usefulness of the information contained in OCRs that can improve consumers' knowledge of and familiarity with the product/service (Cheung *et al.*, 2008; Filieri, 2015).

Useful OCRs are highly regarded by users as they provide valuable information that they would not be able to retrieve elsewhere (Filieri and McLeay, 2014). Useful OCRs provide diagnostic information that enables consumers to better understand the quality of a product and how it is likely to perform before purchasing it (Filieri, 2015). Hence, they are particularly influential in consumer decision-making as they affect information diagnosticity, consumer's purchase intentions (Filieri *et al.*, 2018), and product sales (Ghose and Ipeirotis, 2010). They also moderate the impact of review valence on financial performance (Mariani and Borghi, 2020). Drawing on these studies, we hypothesize that perceived OCRs' usefulness would enhance customer satisfaction and willingness to use the same UGC platform again in the future. Hence, we hypothesize the following:

*Hypothesis 2a: Perceived review usefulness has a positive impact on CS.*

*Hypothesis 2b: Perceived review usefulness has a positive impact on CI.*

### *3.3. Perceived Ease of Use*

Perceived ease of use is defined as "the degree to which a person believes that using technology will be free from effort" (Davis, 1989, p. 320). Perceived ease of use is one of the most important determinants of technology adoption and has been applied in various technological contexts, including e-service, wireless technology, mobile internet, instant messaging, and mobile commerce (e.g. Chong, 2013). Previous studies have proven that

perceived ease of use significantly impacts attitudes and intention towards mobile phones for purchasing secondary airline travel services (Morosan, 2014), customer satisfaction with e-commerce platforms and electronic services (e.g. Liao *et al.*, 2007), and consumers' acceptance of services and mobile commerce (e.g. Chong, 2013; Ozturk, 2016). Tourists must consider collecting various information when planning a trip, such as information about the required travel documents, legal matters, attractions, accommodations, restaurants, public and private transportation, weather conditions, etc. Due to the variety and quantity of the required information, consumers need time to retrieve and process the needed information.

The effectiveness of information systems in retrieving relevant information is positively correlated with user satisfaction (Al-Maskari and Sanderson, 2010). A study on e-learning showed that students do not want to spend significant time and effort learning how to use a new system (Saadé and Bahli, 2005). Similarly, consumers aim to reduce the cognitive effort required in searching for information to focus on the content of the reviews. UGC platforms attempt to facilitate consumers' information searches through different technologies. For example, information search functions, filters, and mobile apps allow users to easily and rapidly retrieve the relevant information. Once they learn how to use them, consumers are keener to continue using the platform, as the cognitive effort needed to operate them will be lower. Consistently, we argue that ease of use will affect customers' satisfaction and intention to continue using a UGC platform. Thus, we hypothesize the following:

*Hypothesis 3a: Perceived ease of use has a positive impact on CS.*

*Hypothesis 3b: Perceived ease of use has a positive impact on CI.*

### *3.4. Performance heuristics*

Heuristic information processing implies that individuals “consider a few informational cues – or even a single informational cue – and form a judgment based on these

cues” (Tam and Ho, 2005, p. 196). The heuristic view of persuasion mentions that the consumer is a cognitive miser; hence, consumers try to process information efficiently to reduce cognitive effort as much as they can (Taylor, 1981). According to this view, consumers rely only on heuristics to reduce mental effort and facilitate judgments (Chen and Chaiken, 1999).

A typical feature of UGCs are product ratings and ranking (Filieri, 2015), which we define as performance heuristics, that is, the visual information regarding the overall level of satisfaction (average evaluation) expressed by all travelers who have rated a tourism service. Performance heuristics are deemed to facilitate consumers’ product evaluation through numerical, star, or bubble-shaped rating scores summarizing the average reviewers’ evaluation (e.g. 5 rating scale in TripAdvisor). UGC platforms have made shopping a more social experience (Lu *et al.*, 2016), and ratings and ranking can be regarded as the normative influence in eWOM since they represent information about how the crowd of customers is evaluating a service (Filieri, 2015).

Researchers have analyzed the impact of reviews’ numerical ratings on product sales (Chevalier and Mayzlin, 2006; Ye *et al.*, 2011). Scholars have also studied the impact of consumer ratings on information adoption (Filieri and McLeay, 2014), hotel performance (Xie *et al.*, 2014), travelers’ attitudes toward the hotel and intentions to book a room (Sparks and Browning, 2011), review helpfulness (e.g. Mudambi and Schuff, 2010; Park and Nicolau, 2015; Filieri *et al.*, 2020) and perceived information diagnosticity (Filieri, 2015; Filieri *et al.*, 2018a). Heuristics can help consumers quickly assess the performance of various products on offer (i.e. accommodation available in a destination) and choose the best value for money option. By saving consumers’ time, money, and mental effort, performance heuristics make consumer decisions more efficient and effective, which will lead to a feeling of satisfaction

and willingness to reuse the same platform again in the future. Drawing upon these arguments, we hypothesize the following:

*Hypothesis 4a: Performance heuristics have a positive impact on CS.*

*Hypothesis 4b: Performance heuristics have a positive impact on CI.*

### 3.5. Customer Satisfaction

Customer satisfaction is defined as the general level of satisfaction, which is inferred based on customers' assessments of prior relationships, business activities, or experiences with an organization or with its products and services concerning their needs and expectations (Oliver, 1980). User satisfaction is one of the fundamental elements of the IS Continuance Model (Bhattacharjee, 2001). Bhattacharjee (2001) proved that users who are satisfied with a particular technology would continue using it. Customer satisfaction (CS) arises when a product or service regarding technology performs in a way that satisfies consumers' expectations.

The relationship between CS and continuance intention has been hypothesized in various technological contexts, such as web banking (e.g. Bhattacharjee, 2001), social media (e.g. Chang and Zhu, 2012; Mouakket, 2015), blogging (e.g. Tang *et al.*, 2014), Web 2.0 (e.g. Chen *et al.*, 2012), mobile commerce (e.g. Gao *et al.*, 2015), and online services (e.g. Kang and Lee, 2010). Based on the extant literature, we hypothesize that when consumers are satisfied with a UGC platform, they will continue using the same platform in the future. Hence:

*Hypothesis 5: CS has a positive impact on CI.*

Apart from satisfaction's significant influence on CI, several studies revealed that satisfaction plays a mediating role between the antecedents of CI and CI itself (Chang and Zhu, 2012). For example, Akter *et al.*'s (2013) study of mobile health shows that satisfaction

partially mediates the relationship between perceived usefulness, confirmation, perceived service quality, perceived trust, and continuance intention. Similarly, the findings of a study on bike-sharing apps show that satisfaction partly mediates the relationship between perceived usefulness and satisfaction (Cheng *et al.*, 2019). Drawing upon these studies, we hypothesize the following:

*Hypothesis 6: CS mediates the relationship between OCR usefulness, OCR credibility, ease of use, and performance heuristics on CI.*

**---Figure I Here---**

## **4. Methodology**

### *4.1. Data Collection*

An online questionnaire, preliminary pilot-tested with 25 regular users of OCRs among the social networks of the researchers, was used to collect data. Following the pilot test, an email with a summary of the research and conditions for participation, including a hyperlink to the online survey, was sent to a Prolific panel of TripAdvisor users. The only sample selection criterion was that they had used TripAdvisor in the last month for seeking tourism-related information. TripAdvisor was chosen as it is the largest travel community, and it has been widely used in studies on travelers' behavior (e.g. Ayeh *et al.*, 2013; Filieri *et al.*, 2015; Yu *et al.*, 2017).

Prolific is one of the fastest-growing platforms for the recruitment of online participants to research projects. Prolific's interface is user-friendly, reasonably priced, and explicitly informs participants that they are recruited for participation in research (Palan and Schittera, 2018). Prolific has a pool of over one hundred thousand participants whose level of activity is monitored every three months, and recruiters can apply various screening criteria to select research participants such as sociodemographic characteristics; mental health; physical health; political, religious, and personal beliefs; and the like. Numerous scholars have already

used Prolific to collect data and have published their studies in leading international journals in economics (e.g., Marreiros *et al.*, 2017), service marketing (e.g. Godinho and Garrido, 2020), psychology (e.g., Callan *et al.*, 2017), and finance (e.g. Palan and Schittera, 2018).

We stopped data collection in Prolific when we reached 320 completed surveys. However, 297 questionnaires were used for data analysis since 23 participants were rejected because they filled the survey too rapidly. Hair *et al.* (2010) recommend a sample size higher than 200 respondents for structural equation modeling and the adoption of the ratio of 5 to 10 respondents per item. Hence, a sample size of 297 respondents is an adequate sample in the current study.

#### *4.2. Construct measures*

All the scales and items used in this study have been adapted from previous research (see Appendix 1 for details). The four-item scale used to measure review credibility as well as the three-item scale used to measure perceived OCR usefulness have been adopted in previous eWOM studies (Cheung *et al.*, 2008; 2009). Performance heuristics included five statements derived from a scale recently developed and validated by Filieri (2015). Perceived ease of use included four items (Davis, 1989). User satisfaction was measured with three items derived from Oliver (1980). Finally, continuance intention included two items, as used by Limayem *et al.* (2007). A seven-point Likert scale, requiring an answer ranging from strongly disagree (1) to strongly agree (7), was used to measure the items.

## **5. Results**

### *5.1. Sample Profile*

Concerning the socio-demographic characteristics of the sample, 93% of respondents were aged 18–35 years old, with 57% being female and 43% being male. Although this age group may represent a limitation, industry figures reveal that the majority of eWOM adopters

have an average age of 18–35 (BrightLocal, 2015; Statista, 2019). The economic status of the sample is skewed towards the lower-income respondents: 75% of the respondents have an annual income under 9.999£, and 15% of them make between 10.000 and 29.000£. Most respondents are from European countries, while only a small fraction are from Asia and other countries. The characteristics of the respondents are reported in Table I.

----Table I Here----

### 5.2. Measurement Model Evaluation

PLS-SEM (smartPLS V.3.2.8) was selected to test the model and the hypotheses in our study. PLS-SEM is a “regression-based” method that decreases the residual variances of the endogenous constructs. It does not need to handle normality assumptions (Hair *et al.*, 2011), and it has been extensively adopted to test mediation analysis (Ali *et al.*, 2018). Factor loadings, average variance extracted (AVE), and composite reliability (CR) were used to evaluate the convergent validity, while Cronbach’s alpha ( $\alpha$ ) and rho\_A (reliability coefficient) assessed the reliability of the scales. Table II illustrates that all item standardized loadings exceeded the suggested value of 0.7. Also, the average variance extracted (AVE) was above the value of 0.5 for all constructs (Henseler *et al.*, 2009). Similarly, the CR and Cronbach’s alpha were well above the minimum threshold of 0.7 (Hair *et al.*, 2011), demonstrating satisfactory internal consistency and reliability.

---Table II Here---

We then tested for discriminant validity using Fornell and Larcker’s test (1981) and cross-loadings. Discriminant validity is supported when the AVE value for each latent variable included in the model is greater than the squared correlation estimate (Fornell and Larcker, 1981). The findings illustrated in Table III show that the AVE value of each construct is higher than its corresponding correlation with other constructs, demonstrating

discriminant validity (Fornell and Larcker, 1981). As displayed in Table IV, the findings of cross-loadings show evidence of discriminant validity, as the loading coefficients of each construct are higher than other construct loading coefficients.

----Table III Here---

---Table IV Here---

We also tested for common method bias. Kock (2015) proposed that if all factor level variance inflation factors (VIFs) from a full collinearity test are equal to or lower than 3.3, common method bias is not an issue. The VIF values of our factors varied between 1.3 and 3.1, thus it is under the recommended threshold value.

## 5.2. Structural Equation Model Evaluation

We adopted the bootstrapping procedure with 5,000 iterations to measure the statistical significance of the path coefficients. Moreover, Henseler *et al.* (2016) recommend using the standardized root mean square residual (SRMR) as the only approximate model fit criterion. Our model shows an SRMR value of 0.058, demonstrating a more than adequate model fit (Merli *et al.*, 2019).

To evaluate the structural model, Hair *et al.* (2013) propose examining the  $R^2$ , beta value, and identical  $t$  values as well as the effect size ( $f^2$ ). First, the main principle for the assessment of the structural model is the values of the variance explained ( $R^2$ ).  $R^2$  value measures the size of the relationship between the latent variables, illustrating how much an exogenous latent variable contributes to an endogenous latent variable (Wong, 2013). Following Cohen's (1988) principle (0.02 = small effect, 0.15 = medium effect, and 0.35 = large effect), the effect size was estimated and presented in Table V (Hair *et al.*, 2014).  $R^2$  values of 0.59 (continuance intention) and 0.71 (customer satisfaction) for the endogenous



variables in our model are to be considered moderate and strong, respectively (Chin, 1998). To evaluate predictive relevance, we used Stone-Geisser's blindfolding test (Tenenhaus *et al.*, 2005). Since the values of the predictive relevance ( $Q^2$ ) are higher than zero (Table V), we can conclude that the proposed conceptual model has high predictive validity.

**----Table V Here----**

Additionally, Table VI presents the findings regarding the testing of our hypotheses, which show that perceived ease of use has a significant effect on CI (H1a) and CS (H1b). Moreover, the results also demonstrate that OCR credibility has a positive and significant impact on both CI (H2a) and CS (H2b). As hypothesized, it was found that OCR usefulness has a positive and significant influence on CI (H3a) and CS (H3b). However, somewhat surprisingly, the findings illustrate that performance heuristics do not significantly influence CI (H4b) as well as CS (H4a). Lastly, CS has a positive and significant influence on CI (H5a).

**---Table VI Here---**

### *5.3. Mediation Test*

The last hypothesis of our study suggested that CS mediates the relationship between the independent variables in our framework and CI. We utilized the bootstrapping method (Zhao *et al.*, 2010). The findings are illustrated in Table VII. Hair *et al.* (2010) suggest that when the indirect effects are significant, the mediation effect can be established. In our study, only one of the indirect effects was insignificant, i.e. the path performance heuristics -> customer satisfaction -> continuance intention and the 95% confidence interval covers zero (-0.008-0.059). The other three indirect effects were significant, with a 95% confidence interval, suggesting that CS mediates the effects of ease of use, OCR credibility, and OCR usefulness on CI.

**---Table VII Here---**

To evaluate the magnitude of mediation, we employed the Variance Accounted For (VAF) (Ali *et al.*, 2018). VAF values change between 0 and 100%. If values are above 80%, they indicate full mediation. If values vary between 20% and 80%, they demonstrate partial mediation. Last, when values are under 20%, they indicate no mediation effect (Merli *et al.*, 2019). VAF determines the strength of the indirect effect on the total effect (Hair *et al.*, 2014). As illustrated in Table VII, CS partially mediates the effect of ease of use, OCR credibility, and OCR usefulness on continuance intention.

## **6. Discussion**

### *6.1 Conclusions*

This study aimed to research the factors influencing users' continuance intention of UGC platforms by focusing on TripAdvisor, the world's largest traveler community. The results of our study reveal that perceived review credibility, review usefulness, and ease of use predict customer satisfaction and intention of continued use of TripAdvisor, with customer satisfaction playing a mediating role. However, contrary to our expectations, performance heuristics neither predicted customer satisfaction nor continuance intention.

Perceived review credibility is one of the most crucial determinants of travelers' satisfaction and continued use of UGC platforms. Previous studies in eWOM measured the effect of review credibility on users' adoption of information (Cheung *et al.*, 2009), while other scholars highlighted the cues consumers use to ferret out fake reviews (Filiari, 2016; Plotkina *et al.*, 2020) or studied the impact of trust towards a UGC platform on users' eWOM and recommendation adoption (Filiari *et al.*, 2015). In general, the growing importance of review credibility is probably due to the growing media attention to the alarming phenomena of fake and promotional reviews (Filiari, 2016; Chakraborty, 2019). This study reveals that the more consumers obtain credible information from online reviews on TripAdvisor, the

higher their satisfaction and intention to continue using this platform will be. Perceived review credibility is particularly important in the decision-making of travel-related products.

Perceived review usefulness is another significant determinant of customer satisfaction and continuance intention of UGC platforms. That is, if travelers feel that recommendations and reviews are helpful to assess products' quality and performance before purchasing them, they will be satisfied and will continue using the same platform. Our results underline the importance of perceived usefulness as a significant predictor of customer satisfaction with various technologies (e.g. blogs, social media, online shopping, websites, e-services, and digital textbooks) (Bhattacharjee, 2001; Kang and Lee, 2010; Joo *et al.*, 2017; Lin *et al.*, 2005). Furthermore, it proves its direct influence on users' continuance intention (e.g. Al-Maghrabi *et al.*, 2011; Bhattacharjee, 2001; Joo *et al.*, 2017; Liao *et al.*, 2007; Lin and Lu, 2000; Mouakket, 2015; Tang *et al.*, 2014).

Our findings demonstrate that the perceived ease of use of TripAdvisor has a positive impact on customer satisfaction and continuance intention. Although prior studies found that perceived ease of use has a weak or absent effect on attitude in the later stages of technology adoption (Davis *et al.*, 1989; Karahanna *et al.*, 1999; Liao *et al.*, 2007), perceived ease of use is a strong and significant antecedent of customer satisfaction in this study. This is consistent with technology adoption studies that found that perceived ease of use is positively related to the adoption of technologies such as mobile commerce (Chong, 2013) and with research on consumers' loyalty towards mobile hotel booking (Ozturk *et al.*, 2016b).

Performance heuristics provide visual information about the overall level of satisfaction (average evaluation) as expressed by all travelers who have rated a tourism service. Contrary to our expectations, the effect of performance heuristics was not significant on either customer satisfaction or continuance intention. This result can be explained by different reasons. From a theoretical perspective, holiday booking implies a high involvement

in information processing (Smallman and Moore, 2010; Filieri *et al.*, 2018a). Hence, travelers may prefer to use the central route of information processing and attentively evaluate the arguments in consumer reviews (Petty *et al.*, 1983). From a technological perspective, TripAdvisor's performance heuristics (i.e. 5-bubbles rating scale) do not provide much discrimination between the various options available to travelers. Similarly, scholars found most reviews posted on TripAdvisor are positive; hence, the rating distribution is skewed towards the positive end of the scale (Park and Nicolau, 2015). In marketing research, it is agreed that more scale points in a survey provide more options for the research participant (Dawes, 2008). Due to the reasons mentioned above, the use of decimals in rating scales is supposed to improve consumers' evaluation and discrimination between the various options available. Many eWOM and e-commerce platforms already display decimals in their rating scales (i.e. Google Reviews, Booking.com, Airbnb.com). In conclusion, it is plausible that the similarity of rating scores makes it difficult for consumers to discriminate among the different options available.

Customer satisfaction is a key predictor of continuance intention in the context of UGC platforms. This finding confirms prior research findings on different technologies such as online banking, blogging, social networking sites, Web 2.0, mobile commerce (e.g. Bhattacharjee, 2001; Chang and Zhu, 2012; Chen *et al.*, 2012; Gao *et al.*, 2015; Mouakket, 2015; Tang *et al.*, 2014). Furthermore, customer satisfaction mediates the effect of the independent variables in our model (OCR usefulness, OCR credibility, perceived ease of use) and continuance intention, confirming recent research findings on bike-sharing apps (Cheng *et al.*, 2019).

## *6.2 Theoretical Implications*

We started this paper by highlighting the lack of research on technology continuance intention in the travel and tourism context. Prior research examined the factors influencing travelers' continuance intention of mobile apps (Ozturk *et al.*, 2016a; Kang and Namkung, 2019), the effect of users' offline activities on continued use of online travel communities (Ukpabi *et al.*, 2019), and guests' continued use of the hotel's social media pages (Jung *et al.*, 2018). Building on the IS/IT Continuance Model (Bhattacharjee, 2001) and TAM (Davis, 1989), this study developed and tested an integrated theoretical framework of consumers' continuance intention of UGC platforms.

In addition, we extended these models by including new constructs that are particularly important in the eWOM context, such as perceived review credibility, perceived review usefulness, and performance heuristics (e.g. Chakraborty, 2019; Cheung *et al.*, 2008, 2009; Filieri, 2016; Filieri and McLeay, 2014; Park and Nicolau, 2015; Ye *et al.*, 2011). A further theoretical contribution of this study is that, for the first time, the IS Continuance Model (Bhattacharjee, 2001) is adopted in the travel and tourism research context and, specifically, to study continuance intention of travel-based UGC platforms. The tested model explained a good percentage of the variance of the dependent variables, making our model promising for use in future studies to explain satisfaction with travel-related technologies and continued use over time.

### *6.3 Managerial implications*

The findings are relevant for digital marketing managers of UGC platforms as they show the variables that influence travelers' continuance intention. First, managers of UGC platforms should improve travelers' information search experience by facilitating the platform's ease of use. For instance, Google Maps and Google Reviews have constantly seen growth in the number of users (Singh, 2019). The accessibility (one of the components of ease

of use) of Google Reviews is better than TripAdvisor's. While TripAdvisor reviews remain an important information source about tourism packages, many people are increasingly looking for alternative platforms that are easy to use and contain geo-localized information (Tussyadiah and Zach, 2012).

Moreover, TripAdvisor should not only facilitate the retrieval of information but also the retrieval of the most credible and useful OCRs. For example, some travelers decide to book accommodations and restaurants based on specific service quality attributes (Fileri *et al.*, 2020). Hence, these users may be more interested in, and vote as more helpful, the reviews that discuss these attributes (Fileri *et al.*, 2020). At present, many UGC platforms, including TripAdvisor, enable users to view OCRs only in chronological order and in an aggregate fashion. However, to improve ease of use, UGC platforms should enhance the retrieval of consumer reviews according to the different dimensions of tourism services that are important to different consumers (e.g. breakfast quality, cleanliness, bed comfort for accommodation). UGC platforms like TripAdvisor should enable travelers to rapidly retrieve the most useful reviews about the service quality criteria that are most important to them. By doing so, UGC platforms can reduce information overload issues and enhance customer satisfaction and continuance intention.

Perceived review credibility has a significant effect on customer satisfaction and continuance intention (through the mediation of satisfaction). The rise of promotional and fake reviews is a clear warning to UGC platforms. In this end, TripAdvisor has received a lot of negative publicity for not being able to prevent fake reviews from being published on the website. For example, the news of a nonexistent restaurant, 'The Shed at Dulwich,' that received so many complimentary reviews to become the top-rated restaurant in London, attracted mass media attention across the globe (Butler, 2017). Travelers view UGC platforms as independent travel guides where they can retrieve honest feedback and experiences from

real travelers. Managers of UGC platforms should ensure the credibility of the reviews by adopting some identity check mechanisms. Moreover, TripAdvisor should be more proactive in communicating about the actions they undertake to fight the diffusion of fake and promotional reviews. In such a way, its management could minimize the impact of news about fake reviews, which are tarnishing the platform's reputation. On the other hand, TripAdvisor could incentivize and give more visibility to the reviews that are perceived as most credible by travelers and introduce a credibility vote in addition to the helpful vote.

#### *6.4 Limitations and future research*

This research is not exempted from limitations. First, the respondents were mostly European users aged 18–35 years old and recruited through Prolific. Although research on technology continuance intention in European countries is scant, it would be advisable to replicate this study with participants from other countries and different age groups to generalize the findings. Accordingly, cultural differences are important in consumers' information processing (Leon, 2019).

Moreover, the current research only covers the users of TripAdvisor. Other studies could focus on other eWOM platforms such as Google Reviews, which have been indicated to be the first information source that people go to get consumer reviews about products (Forrest, 2017). Furthermore, scholars could investigate the factors affecting continuance intention of other eWOM formats, such as video (i.e. travel videos), graphic (i.e. travelers' photos on Instagram), or other mixed (i.e. travel blogs).

Future research could use the IS/IT continuance intention model to investigate a variety of interesting phenomena, such as continuance intention of travel books, travel applications, and of accommodation's self-service check-in and check-out systems. Scholars could investigate the continuance intention of specific behaviors, not only technology. For

example, they could focus on the behavior of posting consumer reviews, which could be undeniably interesting for managers of social commerce, UGC platforms, and online travel communities. Accordingly, these organizations constantly attempt to understand how to motivate customers and prospects to post reviews on their platforms.

Moreover, the construct of consumer engagement with brands on social media is gaining importance in the marketing literature. The application of the IS Continuance Model could be useful to understand consumers' motivation to continue to engage with online travel brand communities on social media platforms. Finally, this study has focused on technology continuance intention. Scholars could instead investigate the factors leading to discontinuance intention of UGC platforms, i.e. the cessation of the use of technology.

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