Investigating the Trust Model for Online Reviews of Tourism Services and Evaluation of Destinations

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Abstract
Obtaining information about destinations and services they provide is ever more based on user-generated content (UGC) which includes reviews of tourism services as well as evaluation of attractions and destinations by visitors. The growing importance of reviews of tourism services is recognized by tourism service providers and some of them influence the content of reviews on review sites. At the same time procedures for the prevention of false and misleading reviews as well as their detection are being intensively developed. This is documented in relevant sources which were identified especially on the Web of Science Scopus Science direct Research gate and the websites of MDPI Emerald and Taylor & Francis Online. The aim of this study is to reveal how the verification of reviews can be improved with the intention to increase confidence in the review sites. In the form of case studies of Trip Advisor and Booking.com the current rise of trust in reviews on these review sites was analyzed and documented. The outputs of research include a SWOT analysis processual analysis and an analysis of verification process conditions factors affecting trust in reviews on review sites. On these bases a conceptual model for providing verified reviews of tourism services or verified destination assessment and two process models for providing verified reviews of tourism services and for providing verified destination assessment have been drawn up.

1.   INTRODUCTION

As research conducted in various years shows (e.g. TIA 2005;Leung et al.2013;Trend 2013;Prabu 2014;Dwityas and Brian dana 2017;Tham et al.2020) the share of people who use search engines social media and specifically review websites when planning their vacation is constantly increasing. As for the use of search engines for planning their trips the American Tourism Association reported a share of 64% of passengers in 2004 (TIA 2005) and according to Google in 2013 it was already more than 80% of people (Trend 2013). Concerning review sites the PhoCusWright survey showed (Prabu2014) that as early as 2013 more than 80% of passengers in the UK read between six and twelve reviews before deciding which hotel to stay in and 53% stated that they would not be willing to book a hotel for which no reviews have been written.

An analysis of review sites shows that the first review sites for movies sports and businesses (rateitall.com deja.com Epinions) appeared on the Internet in 1999. Reviews for tourism followed soon (2000). Trip Advisor and Booking.com (both operating since 2000) have been playing arguably the most important role among review sites in tourism for several years. This is evidenced by published statistics and various studies of their use by users. Trip Advisor content is primarily devoted to user reviews and photos of places and facilities related to tourism (e.g. hotels restaurants museums theatres galleries monuments and natural attractions). According to Trip Advisor (2020a) their platform helps nearly half a billion travelers each month; it is also the largest travel platform in the world and it is available in 49 markets and in 28 languages. Trip Advisor is available on the web as well as mobile apps for Android and iOS. In 2014 according to Okazaki et al.(2017) 100 million people downloaded Trip Advisor with a total of 200 million users (Statista 2020). In 2019 Trip Advisor already boasted 859 million users (Statista2020). Booking.com specializes in booking accommodation; their website is available in 43 languages and offers more than 28 million registered accommodation units (Booking.com2020a2020b).

The role of review sites must be perceived in connection with the importance of electronic WOM

(eWOM) for tourism participants. According to Nam et al.(2020b) the influence of eWOM is undeniable with 91% of individuals viewing blogs product reviews or other online comments created by users before purchasing a product or service 84% of respondents say they trust online reviews as much as personal recommendations and 74% of consumers say they trust companies more if they have positive reviews. For instance in 2012 according to a Travel Daily News survey (Travel Daily News2012) 87% of respondents thought that reviews on Trip Advisor had helped them choose a hotel with more confidence and 98% thought that the reviews on the site were accurate. Most authors report a positive effect of positive reviews on the demand for tourism services (e.g. Mauri and Minazzi2013). On the other hand some authors report a neutral effect (El-Said2020). The significant impact of negative reviews on consumer decisions causing the outflow of customers from the affected tourism service provider has long been confirmed (Lee ET al.2008; Sparks and Browning 2011; Mauri and Minazzi 2013; El-Said 2020). The impact of reviews on consumers is also enhanced by the geographical proximity of the reviewer and the consumer (Chan ET al.2017). As reported by Casal ó et al. (2015) putting an accommodation facility on the list of best/worst hotels has a positive/negative impact on customer decisions especially if the list is published in a well-known review site (e.g. Trip Advisor Booking.com Expedia Yelp).

Review sites are important not only for decision-making by potential users of tourism services and visitors to destinations (e.g. Zervas ET al.2021) but also as sources of valuable information about the way of thinking and satisfaction or dissatisfaction of tourism participants. Review sites are significant for the implementation of marketing of tourism services attractions and destinations. They are also an important factor in satisfaction with tourism services and expectation created by destinations and are considered a part of the total tourism product. For all these reasons the level of veracity of reviews contained in review sites has become an important research topic. As a result various methods for detecting false reviews are discussed and developed and various complex procedures for verifying reviews and reviewers are becoming a common practice of review sites. This dynamic development of the significance of review sites various ways of deliberate influencing reviews (e.g. by hotel managers) the creation of intentionally false reviews and their detection led the authors to formulate the basic objective of their article. The aim of this study is to overcome the identified weaknesses in the review verification process by drawing up conceptual and process models. Their implementation should increase confidence in tourism review sites.

2.   THEORETICAL BACKGROUND

2.1. Social Media and User-Generated Content

Social media are important for information retrieval in tourism (Xiang and Gretzel 2010; Zeng and Gerritsen2014) and as a platform for creating user-generated events (UGEs; Marine-Roig ET al.2017). Certain considerations are relevant in analyzing the use of social media. Firstly it is appropriate to respect their different uses by different segments of tourism participants (e.g. Amaro ET al.2016). Secondly it is necessary to respond adequately to the challenges that social media create for marketing (Hofacker and Belanche2016). The use of social media in preparation for and during the journey also has the potential to reduce tourism cognitive distances as described in detail by Ankomah and Crompton (1992). The content of social media including review sites is in the case of tourism created by providers and intermediaries of tourism services and destination management organizations (collectively referred to as firm-generated content FGC) and users (user-generated content UGC). UGC can be divided into primary user-generated content (photos videos stories reviews etc.) and secondary user generated content (comments on the primary UGC and the primary FGC including comments to reviews likes recommendations for tracking content link forwarding etc.). Some of the FGC content directly relates to the UGC in particular comments and responses to user reviews and false "corporate" reviews that look like UGC.

A frequent topic of research is the degree and nature of UGC‟s credibility on social media while the undesirable use and content of social media relates to non-personal communication and anonymity of part of the content (Mkono2018). Some researchers aim to understand reasons for writing false reviews and other false UGC messages on social media (Choi et al.2017). At present as evidenced by various studies (e.g. Berhanu and Raj2020) confidence in the veracity of the UGC on social media persists. Nonetheless according to Berhanu and Raj (2020) this confidence decreases with the increasing age of respondents. This trust is influenced by a number of factors (e.g. level and manner of communication transparency interconnectedness) as shown by among others Li and Suh (2015) Rajamma et al.(2019) Grewal and Stephen(2019) and Lee and Hong(2019). Other studies (e.g. Munar and Jacobsen2013) found that a lower level of trust in UGC on social media depends on the type of social media.

Research and review articles have repeatedly confirmed (e.g. Dickinger2011; Fotiset al.2012; Goh ET al.2013; Filieri et al.2015; Maria-Irina and Istudor2019; Verma and Yadav 2021) that UGC is usually

perceived as more credible compared to FGC including social media of tourist destinations service providers and tourism services intermediaries. At the beginning of UGC development some studies showed opposite results emphasizing the higher credibility of FGC (e.g. Cox ET al.2009). Other studies described the relationship between UGC and FGC on multiple levels (e.g. Colicev ET al.2018) and highlighted the significant influence of FGC on tourism participants" decision-making. These differing results can be explained by the fact that for UGC it is not only the similarity to the immediacy of personal oral communication (WOM) but also the perceived level of users" trust in UGC that are important (Munar and Jacobsen2013;Owusu et al.2016). As various factors influence this trust the research also focuses on the factors that influence the level of trust in UGC in connection with its use as a resource for booking tourism services (e.g. Rajamma et al.2019). However the level and conditions of UGC"s credibility in connection with the occurrence of intentionally distorted and fraudulent evaluations of tourism services attractions and destinations have also been discussed for a long time (Burgess et al.2009 2011; Reyes-Menendez et al.2019a; Fedeli2020). Trust in the truthfulness accuracy and sincerity of UGC content is a prerequisite for using UGC in information retrieval vacation planning (Enter and Michopoulou 2013; Mendes-Filho ET al.2018) and comparing destinations and quality of tourism service providers and intermediaries. There is a new "category" of social media content namely that created or shared and commented on by social media influencers (e.g. YouTubers bloggers) whose credibility and influence on the preferences and behavior of potential tourism participants are also frequently examined (Bokunewicz and Shulman 2017;Gretzel 2018; Lou and Yuan2019;Jaya and Prianthara 2020). Similar attention is paid to trusted reviewers (Shankadeep ET al.2017) and their impact on increasing trust in tourism services (Sharma and Aggarwal 2020). The research also looks into the influence of the nature of the resource on its credibility and level of use (e.g. Burgess ET al.2011; Casal ó et al.2015). The results of these studies (Burgess et al.2011; Casal ó et al.2015) show that online reviews are perceived by users as more useful and credible when published by well-known online travel communities (e.g. Lonely Planet Trip Advisor).

2.2. EWOM

Research conducted from the emergence of social media to the present day agrees that there is in tourism growing interest in e-WOM (e.g. Litvin et al.2008;Trusov et al.2008;Jalilvand et al.2011;Sotiriadis and Zyl2013;Wang2015;Baka2016;Nam et al.2020a2020b;Bu et al.2020). It is particularly true of UGC that has an impact on changing the preferences of potential tourism participants their actions and the way quality and quantity of tourism services or choice of tourist attractions choice of destination and length of stay in it. At the same time the traditional higher influence of oral WOM in comparison with e-WOM persists (e.g. Hern ándezMéndez ET al.2015; Ishida et al.2016). However the result of Duffy (2015) is interesting while WOM is usually more reliable than e-WOM in case detailed information needs to be obtained (e.g. a specific hotel) e-WOM can be considered a more valuable source of information.

Social media and especially e-WOM are important for the marketing of tourism services (Hudson and Thal2013;Zeng and Gerritsen2014;Tsao et al.2015;Baka2016; Pantano et al.2017;Giglio et al.2019;ReyesMenendez et al.2019b;Zervas et al.2021).

The analysis of their content can be used to increase the quality of marketing of tourism services tourist attractions or destinations (Lai2011; Lai and to 2015). It is also possible to implement strategic social media marketing (Felix ET al.2017). Many studies document the importance of social media for destination marketing (Lange Faria and Elliot 2012; Alizadeh and Isa 2014 2015; Mukherjee and Nagabhushana 2016; Rahman 2017; Bokunewicz and Shulman 2017) including the role of e-WOM (Tham ET al.2013; Abubakar 2016; Ishida et al. 2016; Cheng ET al.2020).

2.3. Influence of Online Reviews on Customer Decisions

Many studies (e.g. Ham et al.2019) confirm the significant influence of online reviews of service quality attractions and destinations on the decision-making process of potential tourism participants. Applications are created that extract useful information from reviews such as the evaluation of attractions on Trip Advisor (Guy ET al.2017) and multi-criteria evaluation of the quality and cost-effectiveness of hotel services (Huang et al.2018). On the contrary some studies (Ert ET al.2016) question the influence of reviews in relation to other factors and demonstrate the decisive influence of photographs on customer decisions as in the case of Airbnb. The impact of reviews on customers is sometimes viewed as much more complex. For instance Ahmad and Sun(2018) analysed factors involved in assessing the veracity of reviews (false identity and ulterior motivations) and the influence of critical review on more frequent consumer involvement in writing critical reviews in case of poor-quality service.

2.4. Trust in UGC-Based Review Sites

The use and importance of review sites based on UGC (as well as that of content created intentionally by tour operators) and high user trust in the veracity of their content have been growing (e.g. L ópez and Taño2017; Harris2018). According toFilieri et al. (2015) however maintaining a high level of trust in UGC is an increasingly challenging task for review site managers. For instance Trip Advisor was forced by the British Advertising Standards Authority to remove its "misleading" slogans referring to the credible and honest nature of all reviews hosted on its website. Methods for improving the quality of knowledge gained from review sites are also being developed with collective analysis of reviews and their aggregation being a typical approach (e.g. Dai ET al.2012; Leal et al.20182019; Nilashi et al.2018). According to Fogel and Murphy (2018) experience with using online reviews on Trip Advisor has increased their later use and positively influenced the willingness to purchase reviewed services which reflects growing confidence in Trip Advisor reviews. Nevertheless Duffy (2017) emphasizes the dominant role of self-confidence compared to trust in Trip Advisor and reviewers.

Models are also being developed (Baka2016) on how to strategically use UGC in marketing specifically reviews on review sites to increase one's own reputation and appropriate research directions are proposed (Lu and Stepchenkova2015; Wu ET al.2020). The greatest attention is paid to reviews of hotel services (e.g. Schuckert ET al.2015; Akhtar ET al.2019; an et al.2020). The degree to which destination reviews by amateurs and professionals influence the behavior of tourism participants is also compared. According to research by Vincent (2018) professional reviews influence tourism participants to a greater extent.

In recent years however the reliability of review sites especially the most popular ones (e.g. Trip Advisor Booking.com) has been extensively discussed in the mass media (Streitfield 2011; Tuttle 2012; Smith 2013; Lipson 2016; Beaton 2018). It has also been analysed in professional articles (Jindal and Liu 2008; Jeacle and Carter 2011; Filieri et al. 2015; Wu ET al.2020; Nam ET al.2020a 2020b; Mahat and Hanafiah 2020). At the same time new knowledge is being gained about the motivations and reasons for the systematic review content manipulation by tourism service providers (e.g. Gossling et al.2018) including ways of influencing the positivity of reviews (Magno et al.2018). The percentage of false reviews is estimated at around 20% (Schuckert ET al.2016).

Various types of data analysis of review sites (e.g. data mining expert systems) experiments and studies of hotel managers" practices (e.g. Gosling et al.2018;Gössling et al.2019) regularly document that not all consumer reviews are written by real customers with the motivation to share experience with other customers and possibly advise them. Part of the review site content about hotel services is thus misleading (Jindal and Liu2008; Filieri ET al.2015; Akhtar ET al.2019). Managers" responses to reviews may be perceived differently by users and may even reduce the credibility of reviews as shown in the case of TripAdvisor byXu et al. (2020).Reyes-Menendez et al. (2019a) used the PRISMA methodology to provide a systematic review of articles published in the Web of Science on the issue of false reviews.

2.5. Methods for Detecting False Reviews

In recent years in connection with the growing attention paid to fake online reviews (e.g. Song et al.2017;Wu et al.2020;Li et al.2020) great efforts have been made to develop methods for detecting false messages. This effort is also evidenced by the growing number of articles (e.g. Cardoso ET al.2018; Cai and Zhu2020; Wu et al.2020). There is also the effort to understand the significance of psychological cues time distance and reviewer location for writing false reviews (Li ET al.2020) which would increase the effectiveness of methods for searching for such reviews. Finding false reviews and eliminating them not only help maintain the trust of potential customers in review sites but also further develop methods of mass analysis of these reviews used as an important basis for marketing and management decisions (e.g. Bi et al.2019;Kauffmann et al.2020;Chang et al.2020).

Due to the number of online reviews it is necessary to develop and use automatic tools using machine learning approaches (Martinez-Torres and Toral2019). According to Cardoso et al.(2018) Barbado et al.(2019) Wu et al.(2020) and Zheng et al.(2021) methods for detecting false reviews are principally based on content based spam filtering and behavior-based spam filtering (Buccafurri et al.2015;Zhang et al.2016;Kumar et al.2019). Furthermore they are based on the analysis of the reviewer's profile and their relationships on social media (Kumar ET al.20182019; Song et al.2017) spammer groups detection demographic bias of reviewers and spam detection based on information about the product.

Various methods are used to implement these basic detection procedures. They are based on mathematical methods analysis of traffic and relationships in computer networks (including analysis of usage history) modelling artificial intelligence and last but not least expert evaluation by humans. Methods both new and traditional are used to detect false and intentionally distorted messages include in particular (for a review see Song et al. 2017; Wu et al.2020):

- statistical methods (Hu et al.2012;Song et al.2017;Harris 2018;Kumar et al.2019) text analysis (Harris 2018;Barbado et al.2019;Kauffmann et al.2020) which in recent

- years includes sentiment/emotional analysis and its relationship to overall evaluation (Harris2018;MartinezTorres and Toral2019;Valdivia et al.2019;Gadek and Gu élorget 2020;Moon et al.2020)

- evaluating the behavior of reviewers and where appropriate modelling their behavior (Buccafurri et al.2018;Kumar et al.2019)

- establishing rules for trust networks and detecting breaches of these rules (Buccafurri et al.2015)

- neural networks (Jiang et al.2020)

- human control; however as shown by for example Plotkina et al.(2020) the reliability of human evaluation is only about 57% compared to text analysis tools with a detection reliability of 81%; higher accuracy of machine evaluation is also confirmed by Buccafurri et al.(2018).

2.6. Factors and Contexts of Achieving Trust in Reviews on Review Sites

As summarized in Figure1 the results of the secondary research of factors and contexts of the achieving credibility can be divided into its objectives (Filieri et al.2015; Barbado et al.2019;Wu et al.2020;Zheng et al.2021) ways to ensure it (Cardoso et al.2018;Barbado et al.2019;Wu et al.2020;TripAdvisor2020a;Zheng et al.2021) problems involved (Barbado et al.2019;Zheng et al.2021) and who it concerns (TripAdvisor2020a). The described objectives represent the knowledge base for defining the conditions of the proposed trust model for online reviews of tourism services and evaluation of destinations. This proposed model of trust also respects all the problems described in Figure1 focusing in particular on the existence of fraudulent reviews.

Figure 1. Factors and contexts of achieving trust in reviews on review sites. Source: Based onFilieri et al.(2015) Cardoso et al.(2018) Barbado et al.(2019) Wu et al.(2020) TripAdvisor(2020b) Zheng et al.(2021).
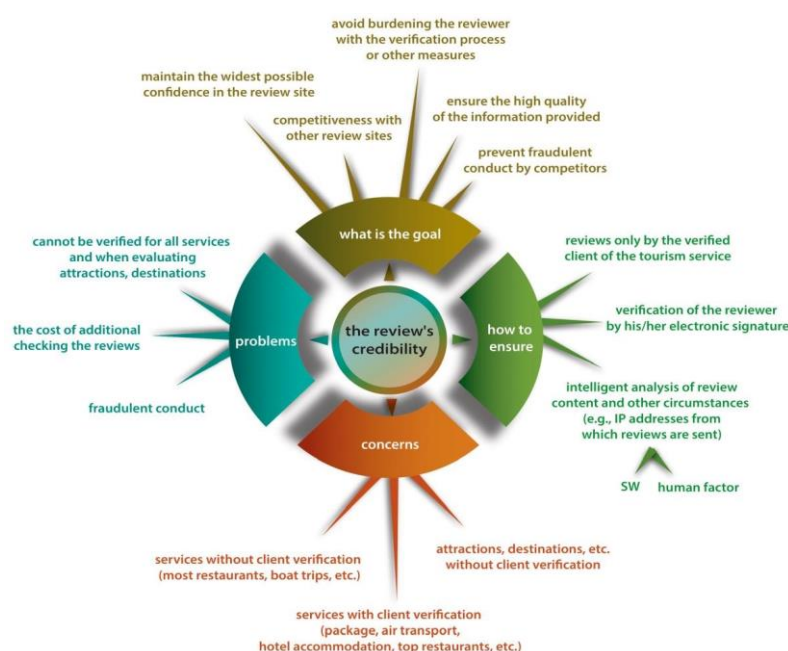

Figure1reflects the current situation when the verification of the reviewer may relate to some tourism

services. It also indicates possible and so far rarely used solutions. Namely the reviewer‟s credibility is established by his or her electronic signature which is attached to the review. Thus the reviewer declares and assumes personal responsibility (including possible legal responsibility) for the content and emotional colouring of the review.

3.   MATERIALS AND METHODS

A literature review indicated the importance of trust to use UGC especially on review sites the growing importance of review sites and the difficulty of detecting fake reviews. Based on this the following research questions were formulated:

Which are factors and contexts of achieving trust in reviews on review sites?

How to improve the verification process of review sites with the intention to increase trust in user-generated reviews and ratings of tourism services and destinations?

Thus the research focused on the importance and ways of achieving trust on review sites with an emphasis on creating a conceptual model of trust for review sites. When choosing review sites for both case studies opinions on their selection among the most important review sites were respected (Xiang et al.2017;BorgesTiago et al.2021). An important selection criterion was their sophisticated approach to eliminating false and misleading reviews. As a result the review sites Trip Advisor and Booking.com were chosen to analyses the process of processing reviews and reactions to them on review sites.

Secondary research consisting of searching for relevant data in published expert studies was based on keyword search and contextual search focused mainly on review credibility Trip Advisor and Booking.com the role and perception of the influence of eWOM UGC and CGC on tourism decision-making and methods of detecting false reviews. Resources were searched for using the Web of Science and Scopus met information databases the full-text Science direct database and the Research gate academic social network. Some of the resources were retrieved using Google and Google Scholar. This search revealed that a significant number of relevant sources on the topic were offered on MDPI Emerald and Taylor & Francis Online websites. The contextual connection of related articles in the Science direct MDPI and Taylor & Francis Online databases was used to search for relevant articles. From a large number of potentially relevant sources the most frequently cited most inspiring (e.g. methods of ensuring trust and authentication applied in fields other than tourism) in terms of content and most current sources were studied in detail. The search for sources was based on a wide range of English keywords in their various combinations. These terms included in particular user-generated content UGC credibility tourism social media tourism user review trust fake review spam review tourism review site. The range of keywords used in the search was continuously supplemented with keywords used in the relevant articles. The criteria for selecting articles included the quality of the journal the quality of the content of the article the date of the article publication with regard to the development of the issue and the novelty of the approach especially in methods and procedures of finding and ensuring trust in general and applied to review sites.

Literature review and secondary data collection were realized through content analysis of the published studies on that topics. Based on an extensive search of relevant sources and content analysis factors and contexts of achieving trust in reviews on review sites has been determined.

The primary research was realized in the form of two case studies: Trip Advisor and Booking.com. The data were collected directly from the Trip Advisor and Booking.com websites by means of analyzing documents and articles published there as well as reviews and responses posted there by tourism service providers. Both case studies were based on an analysis of ways of processing of user reviews with an emphasis on ensuring validity of review verification process clients‟ trust input processes for reviews search for false reviews and the role of the feedback mechanism. As the analysis also included the perception of trust in reviews on both sites the sources were supplemented with articles from the relevant media. The results of the analyses of both abovementioned sites are depicted in the form of SWOT analysis of review verification processes of the process diagrams.

The proposed conceptual model and two process models of the recommended procedure for creating verified reviews resulted from the above-mentioned case studies as well as the results of the secondary research of factors and contexts of achieving trust in reviews on review sites.

4. RESULTS

4.1. Case Study: TripAdvisor Revision Process

Ease of use trust in the veracity of reviews and their usefulness for decision-making fundamentally influence the continued use of Trip Advisor (Trend2013;Filieri et al.2020). Trip Advisor(2020b) has several review rules (especially relevance non-commerciality impartiality and easy readability) that users should follow. Adherence to these guidelines is ensured by a special software technology that runs right after submitting a review and by a team of experienced editors. This technology either allows the review to be published or blocks it and sends it to the editorial team for further assessment. Moreover feedback from web users reporting "suspicious" reviews can be used for approved reviews (used for less than 1% of reviews) (Figure2). Tourism service providers can either comment on approved reviews or request a recheck (the editorial team then decides whether the review remains published or is deleted i.e. made inaccessible to web users).

Figure 2. Review approval process on Trip Advisor. Source Trip Advisor(2020b2020d).
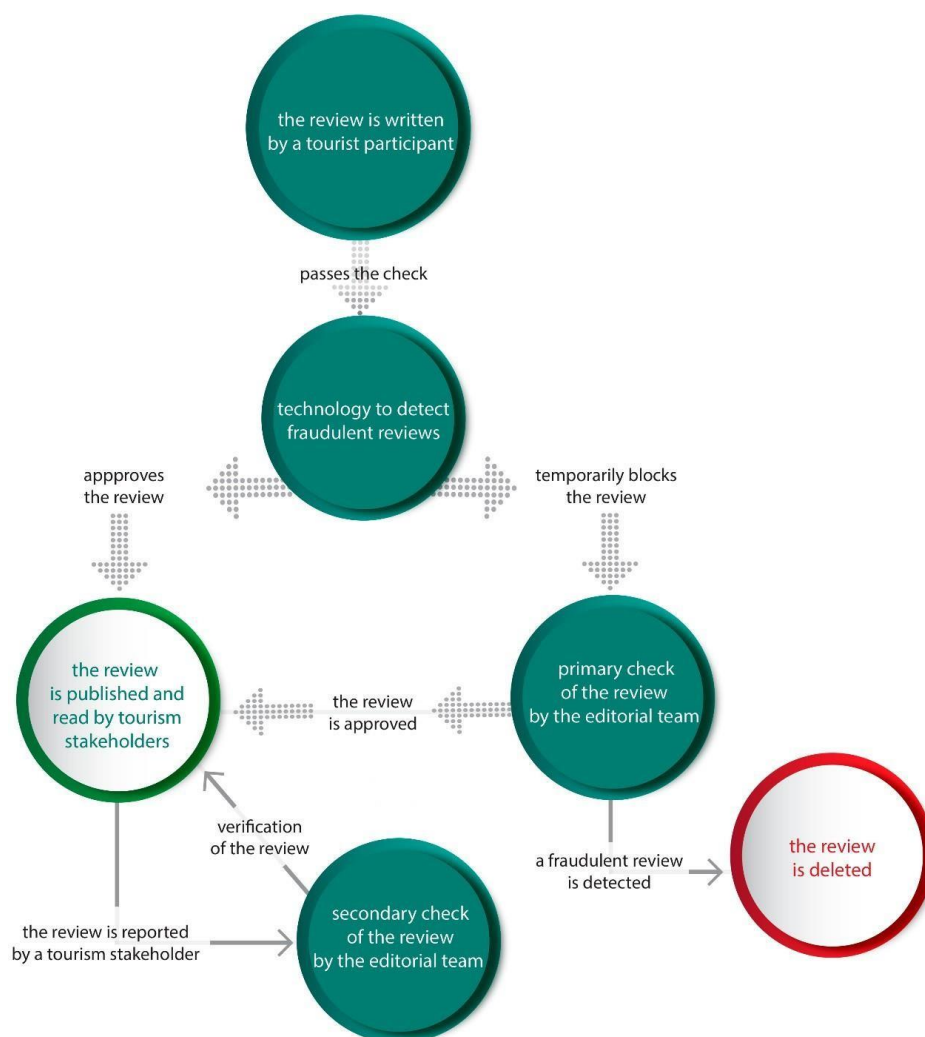
The process of checking the review consists of four different verification mechanisms including the feedback from web users and tourism service providers. The effectiveness of automatic (software) check and the editors" check is further increased by learning from the experience with analysing hundreds of millions of reviews. Historical data contain patterns of behavior and review content for both truthful and fraudulent reviewers (TripAdvisor 2018a) thus creating a knowledge base for analytical software as well as the editorial team. This learning from historical data will make it possible to capture a higher percentage of fraudulent reviews that seem genuine at first glance.

Trip Advisor aims to reduce the number of "institutionalized" false reviews by alternatively applied sanctions against tourism service providers whose fraudulent reviews have been detected. According to Trip Advisor (2020c) such providers may fall in the popularity index on the web may lose the Travelers" Choice label (Wojcek2016) will not be listed on the list of 10 most popular facilities and will not appear in press releases on the web. The most severe punishment is a large red sanction warning on the profile page explaining that the reviews are suspicious (TripAdvisor2020c).

Trip Advisor's "optimistic" claims (TripAdvisor2018b) that more than 99% of reviews on TripAdvisor are not false do not correspond with some independent analyses and documented cases. Several examples:

According to The Guardian(2019) a consumer organization analyzed nearly 250,000 reviews of the top 10 hotels in 10 popular tourist destinations around the world and found signs of false reviews in every seventh review.

According to The Guardian(2018) the owner of an Italian company selling positive false reviews has been convicted of selling these reviews to hundreds of Italian restaurants.

According to Bender(2017) perhaps the best-known example of review fraud is Oobah Butler"s fictional restaurant The Shed at Dulwich England which became famous thanks to fake photos and reviews the toprated restaurant in London on Trip Advisor.

Figure 3. Booking.com review process. Source Booking.com(2020a2020b).
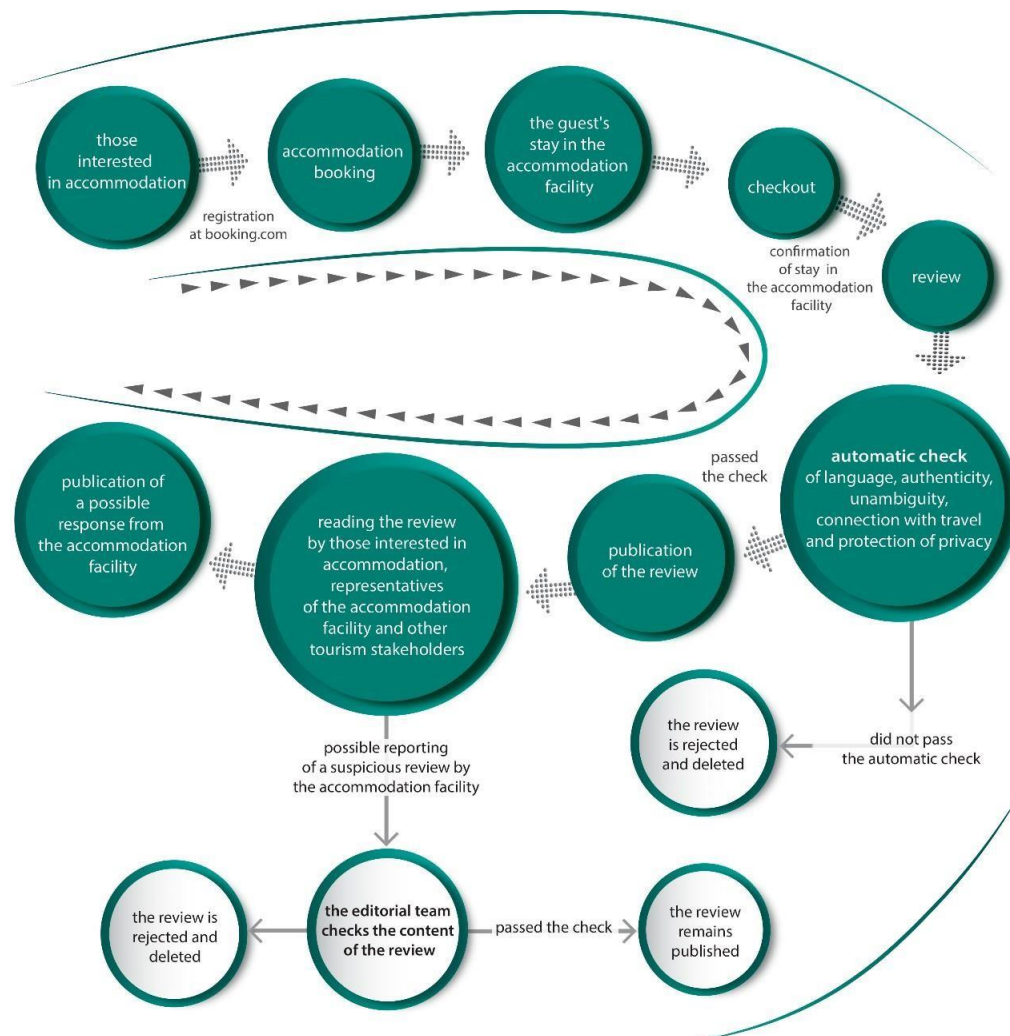
4.2. Case Study: Booking.com Revision Process

Accommodation facilities on Booking.com are rated on a scale of one to ten (1 worst and 10 best) and by verbal ratings after individual services. The resulting average rating is a key parameter of sorting accommodation facilities according to the quality of services. The credibility of reviews is ensured in two stages (Figure3) by authentication and authorization of the accommodated person and control of the content of the review before its publication. Authentication and authorization of the accommodated person is closely related to the reservation via Booking.com and registration of this person only those who have booked accommodation via Booking.com and subsequently checked in will receive a unique number and are assigned the right to write a review. Booking.com is actively influencing the writing of reviews. An e-mail is sent within 48 h after checkout with a request to fill in a review which can be written within three months from the date of the stay (Booking.com 2020a). By announcing that the reviews published on their website are completely reliable Booking.com(2020a) supports the increase in the level of trust felt. It also states that only reviews that do not meet the following conditions are deleted: authenticity clarity suitability for a global audience related to travel and respect the privacy of others. This can be understood as looking for a balance between trust in reviews and freedom of expression. According to Booking.com(2020b) the owner of the reviewed facility can report an already published review via Booking.com Partner hub. The editorial team further examines the review to verify whether the reviewer has actually stayed at the facility or is attempting to blackmail it. If the latter is the case the editorial team deletes the review. If the editorial team comes across offensive language discrimination threats political and religious comments or the disclosure of personal information then Booking.com deletes only the text of the review and keeps the numerical score.

The following Table1provides a summary of the case studies in Sections4.1and4.2 in the form of a SWOT analysis.

Table 1. A SWOT analysis of review verification processes of Trip Advisor and Booking.com review sites. Sources: Trip Advisor (2020b2020d) Booking.com(2020a2020b).

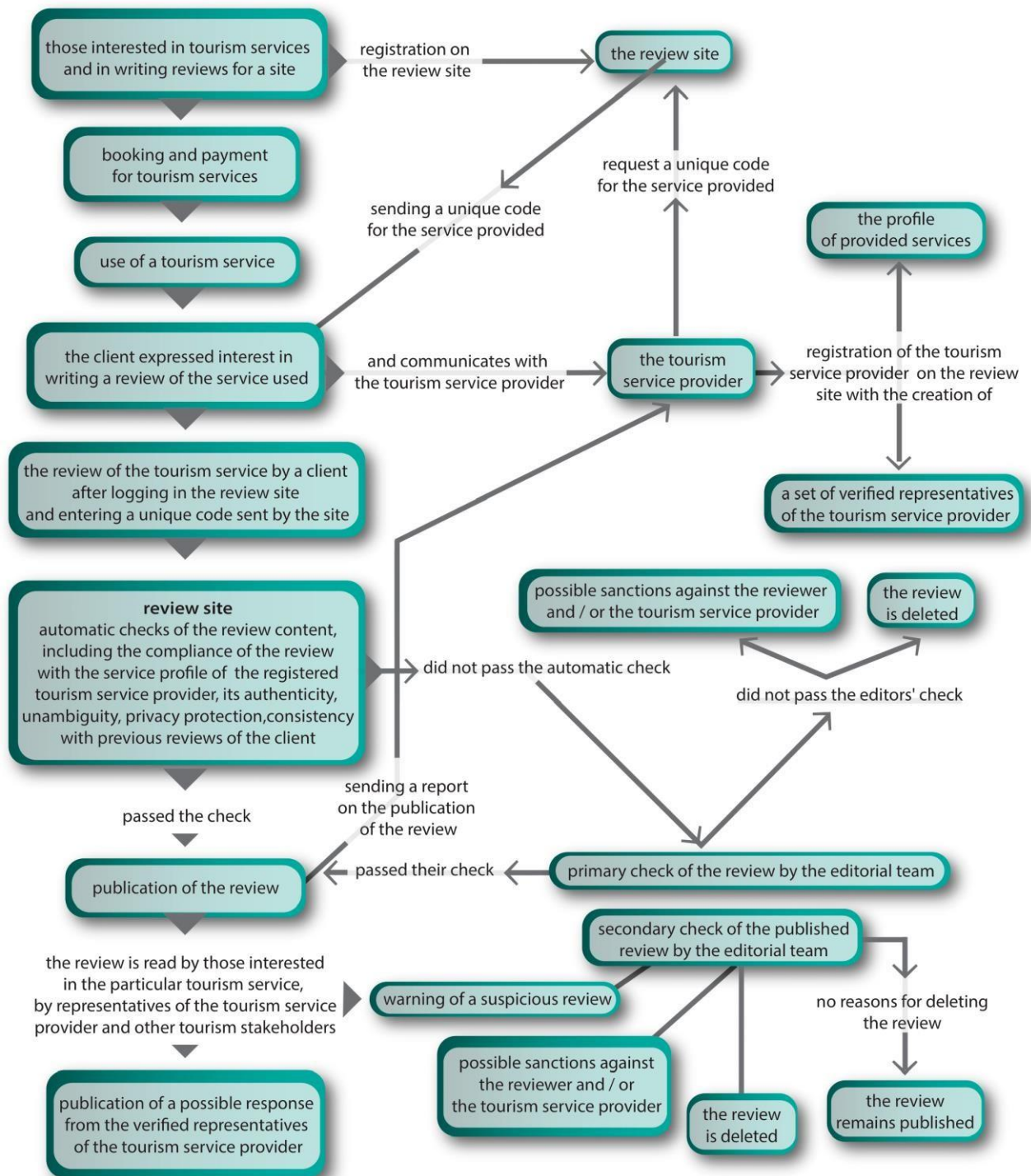|	TripAdvisor	Booking.com
S	• two-step primary review evaluation—an automated and editorial team • subsequent evaluation of reviews at the initiative of relevant stakeholders • global approach • sharing review is easy and fast translated to 28 languages	• trustworthiness of the reviews • subsequent evaluation of reviews at the initiative of relevant stakeholders
W	• trustworthiness of the reviews • detected and described cases of publishing false reviews	• the initial review evaluation is just only automated one
O	• introduction of reviewer verification procedures	• missing two-step primary review evaluation
T	• growing number of fake reviews • loss of user confidence in the veracity of reviews	• growing number of fake reviews • loss of user confidence in the veracity of reviews

Figure 4. Conceptual model of providing a verified review of tourism services or verified destination assessment.
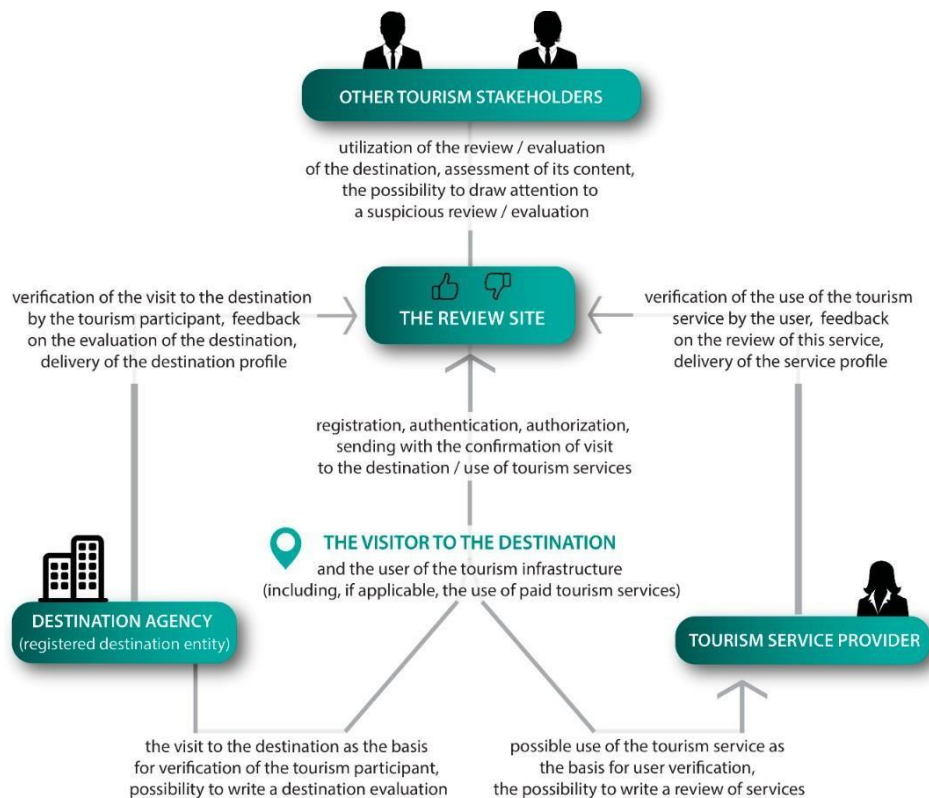
4.3. Drawing up a Trust Model on Review Sites

The starting point for more detailed process models of trust on review sites is the following conceptual model of providing a verified review of tourism services or verified destination assessment (Figure4). Among the prerequisites are the verification of the destination visitor verification of the destination visit or use of the tourism service and cooperation of the tourism service provider or destination agency (or another registered destination entity) with the review site. Feedback as a possible reaction to the published review is part of this cooperation. A newly proposed element of the review check or destination assessment is the evaluation in relation to the profile (basic characteristics) of the destination or tourism service. The conceptual model takes into account the role of end users (and other tourism stakeholders) who provide feedback for already published reviews or destination ratings and choose trustworthy reviews and ratings for themselves. According to Filieri (2016) when choosing a review and assessing the degree of its credibility they apply content analysis and consider the style of communication and occurrence of extreme opinions.

Figure 5. Process model of providing a verified review of tourism services.


The presented process model for providing a verified review of tourism services (Figure5) includes the strengths of current procedures of Trip Advisor (multi-level check of submitted reviews) and Booking.com (authentication and authorization of the user and check of the use of booked accommodation as a precondition of sending reviews). The presented model is a system solution that includes multi-level authentication and authorization (user registration on the review site verification of the use of tourism services by a registered tourism service provider mediating role of the review site) as well as multilevel review check after submission and publication. The role of tourism service providers is also strengthened (sending the profile of provided

services as a basis for automated and possible human control of the review). It also includes sanctions for detected false reviews as part of the prevention of false review writing.

The presented process model of providing verified destination assessment (Figure6) was inspired similarly to the process model of providing a verified review of tourism services, by the strengths of the currently used Trip Advisor and Booking.com procedures. Since tourism service providers cannot verify destination assessment, as it is in case of reviews of tourism services, there was proposed the verification of the tourist's stay in the destination by registered destination entities destination agency, TIC, visitor's office, tourism service provider. The review site would receive warnings of suspicious destinations ratings from the destination agency. This model is another system solution that includes multi-level authentication and authorization (user registration on the review site, verification of his/her destination visit by a registered destination entity, mediating role of the review site), multi-level check of destination assessment after its submission and publication. Moreover, it emphasizes the role of destination agency (sending the destination profile is a basis for automated and possible human check of destination rating). It also includes sanctions for detected false destination ratings as part of the prevention of false destination assessment writing.

Figure 6. Process model of providing verified destination assessment.
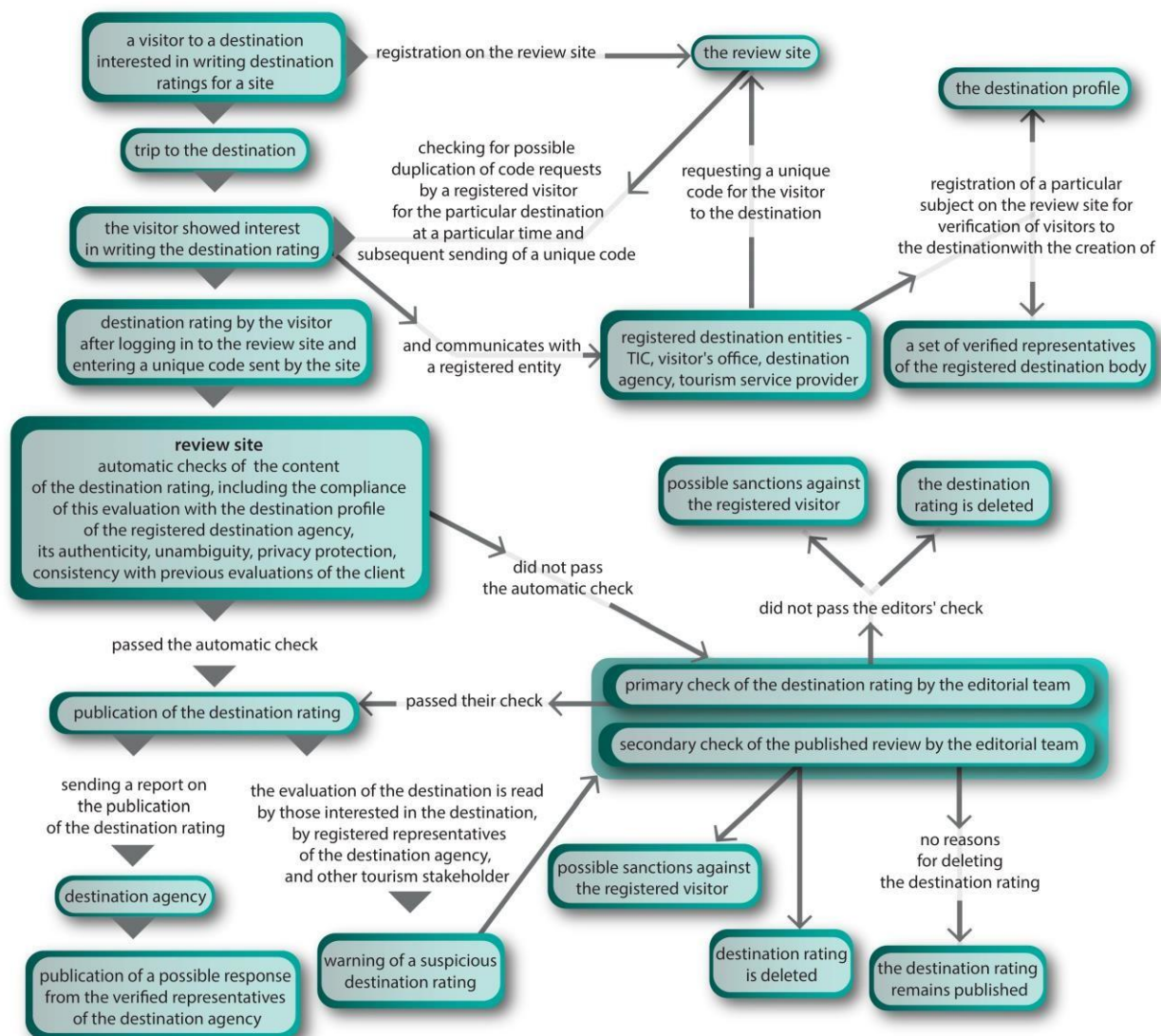
5. DISCUSSION

UGC is playing an increasingly important role in the decision-making of tourism participants in selecting the destination, its attractions, forms of sought-after experiences and tourism services offered in destinations. In the early days of Web 2.0, studies focusing on user trust in UGC, as well as comparing trust in UGC and CGC and the factors that influence that trust, were published. This trust is significantly influenced by the evaluation of the level of truth and intentional cognitive or emotional distortion of UGC content, and this is even more true of e-WOM, including reviews of tourism services and destination ratings. The existence of companies whose business is based on getting fees for removing false or misleading reviews (e.g.,Removify2020) proves the importance of this issue.

Review sites are essentially based on a perceived level of confidence in their content. Therefore, in recent years, they intensify their efforts to prove the credibility of reviews through checks and prevention, associated in some cases with the authentication and authorization of their reviewers. At the same time, their communication aims to demonstrate efforts to eliminate false reviews, as evidenced, for example, by the first Trip Advisor report, "2019 Trip Advisor Review Transparency Report" (TripAdvisor2020d). Both case studies show that Trip Advisor and Booking.com are currently increasing their emphasis on ensuring a higher proportion of true reviews. On the other hand, both these review sites use only some suitable preventive approaches (especially Booking.com, see Figure2) and reactive approaches (especially Trip Advisor, see Figure1). The disadvantage of the preventive approach of Booking.com, with its authentication and authorization of reviewers, is the fact they use it only for accommodation facilities, it is not applied for the booking of other tourism services and attractions that the website offers. The disadvantages of the reactive approach of Trip Advisor relate to the limited detection rate of false reviews, which currently does not exceed 81% for one-step checking (Plotkina et al.2020).

The combination of preventive approach and multi-level reactive approach in the presented conceptual model and two process models significantly reduces the share of cognitively or emotionally skewed reviews and destinations ratings. What also helps is the insertion of a tourism service profile and destination profile, respectively, as a basis for automatic evaluation. The models clearly define the role of individual tourism stakeholders, propose a consistent process of authentication and authorization of the reviewer and propose sanctions for detected fraud (e.g., blacklisting). Authentication of destination reviewers is solved through registered destination entities. The presented models systematically describe the way of ensuring verified reviews, which can be a clearly established, communicated and preferred category of reviews on review sites.

6. CONCLUSIONS

Recently published articles have shown that the chosen topic of trust not only in review sites is highly topical. The review article by Pourfakhimi et al.(2020) confirms the importance of e-WOM in tourism Anagnostopoulou et al.(2020) emphasize the importance of reviews for the online reputation of hotels, which according to them has an impact on hotel profitability Yao et al.(2019) came to a similar conclusion about the significance of reviews in relation to other factors that affect the use of specific accommodation on Airbnb.

As the validity of verification process of review sites is not researched sufficiently, the present study proposes a systematic way how to reach this and thus increase the trust of review site users. The presented conceptual and process models consider various real situations of the process of writing and verifying reviews of tourism services, as well as destination ratings and systematically approaching the ways to ensure trust in them. The models also propose solutions for two areas where reviewer verification is not yet performed services without client verification such as restaurants, boat trips, and attractions, destinations, etc. without client verification. Concerning destination ratings, the models propose a solution with authentication of the destination visitor and consistently introduce a multi-level process of verification of written reviews.

Proposed conceptual and process models can serve as inspiration for the introduction of systematic and thus more credible procedures for reviewing tourism services, attractions and destinations. This approach is very important for e-marketing, especially at the present time, when increased attention is being paid in expert assessments, scientific articles and media to fake reviews (Streitfield 2011;Smith 2013;Lipson 2016;Zhang et al.2016;Songet al.2017;Buccafurri et al.2018;Cardoso et al.2018;Barbado et al.2019;Fedeli 2020;Wu et al.2020;Kauffmann et al.2020;Gadek and Guélorget 2020;Moon et al.2020). The presented models should be verified by simulation based on real data, which demonstrates a reduction in the share of published false reviews and thus an increase in trust in review sites. A very pertinent topic of future research represents the link between trust in reviews and co-creation in tourism (Mohammadi et al.2020).

The future validity of the review verification process and the related trust lie in improving the quality of

automatic check. An interesting method that could be used for automatic finding of false reviews is the comparison between rating scores and sentiment in verbal assessment for Trip Advisor (and thus usable for other review sites), using automated sentiment analysis methods (Valdivia et al.2019). When using review sites as a source of information in marketing research, the systematic use of a false input filter can be expected as the first step of such research in the near future, as described, for example, by Kauffmann et al.(2020). Further research into various aspects of false communications in tourism can also be expected. For example Fedeli(2020) proposes to examine the ethics, marketing, perception and behavior of tourism participants, as well as safety and regulation.

Conflicts of Interest:

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

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