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Abstract

Many consumers consult online reviews before making (online) travel arrangements. Yet, little is known about the impact of these reviews on hotel performance, and therefore managing on-line reviews has been widely neglected by the hospitality industry. The basis of the study has been obtained from the existing literature combining the Xiang et al.'s (2008) model of online tourism domain and the Consideration Set Model created by Roberts & Lattin (1991). The consequences of user generated travel reviews and ratings are also largely undefined and unrehearsed within the hospitality industry and the author attempts to rectify this situation by reporting the insights obtained in an extensive exploratory investigation of 1752 reviews, and hotel performance data on 77 hotels in six different cities. The results show that there are correlations between hotel performance and the number of reviews given as well as with the ratings of the reviews. The paper gives suggestions for further research which could shed light on the possibilities for managing reviews and the level of service quality described in customer-generated reviews and ratings.

Keywords

Online Review, Reputation, Hotel Performance, Tourism Domain, Hospitality

1. Introduction

With difficult market conditions surrounding the travel industry, increasing interest and loyalty among online prospects is integral to hotel suppliers' success. With consumers more likely to cross-shop and price check than ever before, the word of mouth, the on-line reviews, incentives and transparent benefits of the service will often be the deciding factor in the online travel purchase process.

The growth of Internet applications on hospitality and tourism leads to enormous amounts of consumer-generated online reviews on different travel-related facilities. According to Gretzel and Yoo (2008), three-quarters of travellers have considered online consumer reviews as an information source when planning their trips. In other disciplines, studies have shown online user-generated reviews could significantly influence the sales of products like books, CDs, and movies (Chevlier and Mayzlin, 2006; Ghose and Ipeirotis, 2006; Zhu and Zhang, 2006). These studies suggest that the influence of user reviews is particularly important for experience goods as their quality is often unknown before consumption. Although experience goods perfectly match the nature of the hospitality and tourism industries, the issue of the impact of online consumer generated reviews on the performance of hospitality businesses has been overlooked by researchers. Using data collected from a major travel website, this research makes an initial attempt to investigate the impact of online WOM on hotel profitability. This study aims to prove the effect of online consumer-generated reviews into the profitability of an individual hotel. Findings are expected to make a meaningful contribution to knowledge development to help hospitality practitioners and researchers develop a more realistic evaluation of the influence of online WOM.

2. Literature review & Research background

Reports indicate that each year hundreds of millions of potential hotel visitors consult such review sites. Of these visitors, 88% have their hotel choices affected by what they see (Tripadvisor.com; European Travel Commission 2009). In an example, Tripadvisor has an estimated effect worth 500m£ per annum on corporate travel spend (Caterer, 2009). Several studies explore the issue of online reviews, or electronic word-of-mouth, focusing mainly on matters such as motivations of, and social dynamics between, users and contributors of review sites. Previous studies, however, do not investigate online reviews' impact on consumer decision making, i.e., to what extent exposure to online reviews affects consumers' attitudes and purchase decisions (Chevalier & Mayzlin, 2006; Sen & Lerman, 2007). This study will broaden the exploration on the effects of online hotel reviews on consumer choice hence the profitability of the hotels, keeping the consideration set model of consumer choice (Roberts & Lattin, 1991) as a theoretical point of departure.

According to Compete inc. (2009) the share of referrals from social networks to hotel websites is growing rapidly (up 151% since February 2008). A similar trend (with respect to social networks' share of referrals) exists for many other segments within and outside of the online travel industry. The more interesting finding is that the conversion rate of the referrals from social networks to hotel websites exhibits a similar growth trend, growing 98% year over year. Taken together, these findings indicate that social networks are increasingly a source of in-market traffic for hoteliers. (Compete Inc. 2009)

The information society of the new millennium has fundamentally reshaped the way tourism related information is distributed and the way people plan for and consume travel (Buhalis & Law, 2008). In recent years, two "mega trends" have noticeably emerged on the Internet, underscoring changes that can significantly impact the tourism system. On one hand, so-called social media Websites, representing various forms of consumer-generated content (CGC) such as blogs, virtual communities, wikis, social networks, collaborative tagging, and media files shared on sites like YouTube and Flickr, have gained substantial popularity in online travellers' use of the Internet (Gretzel, 2006; Pan et. al., 2007). Many of these social media Websites assist consumers in posting and sharing their travel-related comments, opinions, and personal experiences, which then serve as information for others. This supports the argument by Thomas Friedman (2006) that "the world is flat", with consumers gaining substantially more power in determining the production and distribution of information due to the flattening of access on the Internet. At the same time, the internet also increasingly mediates tourism experiences as tourists use these social media sites to portray, reconstruct and relive their trips (Pudliner, 2007; Tussyadiah & Fesenmaier, 2009). On the other hand, due to the huge amount of information available, reputation has become an essential factor. A recent study showed that search engines serve as the number one online information source for American and European families in the context of vacation planning (eMarketer, 2008; European Travel Commission 2009). A series of reports by internet research firm Hitwise have documented the significance of search

engines in terms of generating upstream traffic to tourism websites (e.g., Hopkins, 2008; Prescott, 2006). Tourism is an information-intensive industry (Sheldon, 1997; Werthner & Klein, 1999) therefore, it is critical to understand changes in technologies and consumer behaviour that impact the distribution and accessibility of travel-related information. Particularly, it has been argued that understanding the nature of the online tourism domain, i.e., the composition of online tourism related information potentially available to travellers, provides an important stepping-stone for the development of successful marketing programs and better information systems in tourism (Fesenmaier et. al., 2006; Xiang et al., 2008). It seems that while social media are, anecdotally, becoming increasingly important in the online tourism domain, there is a lack of applicable empirical data to describe and explain the role of social media in the context of customer retention and profitability.

The rest of the paper is organized as follows: the following section provides the background of this research by critically reviewing existing research on the online tourism domain, social media and especially the consumer review sites to provide the rationale for this study. Then, a conceptual framework of travellers' travel purchase process on the basis of set model of consumer decision making (Roberts & Lattin, 1991) and Online Tourism Domain (Ziang et. al. 2008) is presented and research questions are formulated to guide the investigation. In the methodology section, the design of the research is also explained. Findings are then presented in correspondence with each of the research questions. Finally, managerial implications for online tourism marketing and customer relationship management as well as limitations of this study and plans for future research are discussed.

2.1. Online tourism

Werthner and Klein (1999) proposed a conceptual framework which delineates the interaction between the consumer and the industry suppliers with the Internet playing a facilitating and mediating role. With the increasing importance of the use of the Internet for travel purposes, more attention has been directed to the analysis of the tourism domain, with an emphasis on the mediating role of specific Internet technologies (e.g., search engines) in representing tourism within a travel planning setting (Pan & Fesenmaier, 2006; Wöber, 2006; Xiang et al., 2008). Pan and Fesenmaier (2006), for example, used the term "online tourism information space" to describe the collection of hypertextual content available for travel information searchers. Wöber (2006) examined one aspect of the online tourism, i.e., the visibility of tourism enterprises, particularly destination marketing organizations and individual hotel operations in Europe, among six popular search engines. His findings showed that many tourism websites suffer from very low rankings among the search results, which makes it extremely difficult for online travellers to directly access individual tourism websites through these search engines. Recently, Xiang et al. (2008) conceptualized the online tourism domain based upon an integration of a number of theoretical perspectives, including: (1) the industry perspective (Leiper, 1979, 2008; Smith, 1994), which focuses on what constitutes the supply of tourism and, thus, the organizational entities that comprise the online tourism domain; (2) the symbolic representation perspective (Cohen & Cooper, 1986; Dann, 1997; Leiper, 1990), which describes the representation of tourism products and related experiences provided by the industry in various forms; (3) the travel behaviour perspective (Crompton, 1992; Pearce, 1982; Woodside & Dubelaar, 2002), which includes the activities and the supporting systems at different stages of the travel experience; and, (4) the travel information search perspective (e.g., Fodness & Murray, 1998; Gursoy & McLeary, 2004; Vogt & Fesenmaier, 1998), which is related to the nature of the information sought to support travel experiences.

2.2. Social media and Travel 2.0.

While there is a lack of a formal definition, "social media" can be generally understood as Internet-based applications that carry consumer-generated content which encompasses "media impressions created by consumers, typically informed by relevant experience, and archived or shared online for easy access by other impressionable consumers" (Blackshaw, 2006). This includes a variety of applications in the technical sense which allow consumers to "post", "tag", "digg", or "blog", and so forth, on the Internet. The contents generated by these social medias include a range of new technological applications such as media and content syndication, mash-ups, AJAX, tagging, wikis, web forums and message boards, customer ratings and evaluation systems, virtual worlds (e.g., Second Life), podcasting, blogs, and online videos (vlogs) (Schmallegger & Carson, 2008). Consumer blogs have emerged as one of the most prominent themes in research on social media in travel and tourism (Braun-LaTour, Grinley & Loftus, 2006; Mack, et. al., 2008; Pan et al., 2007; Pudliner, 2007; Pühringer & Taylor, 2008; Waldhör & Rind, 2008). The studies on this type of social media focus on its use as well as its impact on travel decision making. Multimedia sharing (i.e., video, photos, podcasting, etc), represented by Websites such as YouTube and Flickr, has attracted tourism researchers by generating interests in understanding the role of this type of social media content in transforming travel experiences (Tussyadiah & Fesenmaier, 2009).

As evidenced by the success of Websites like tripadvisor.com and zagat.com, online travel-related consumer reviews represent a significant amount of social media for travel purposes (Gretzel & Yoo, 2008; Vermeulen & Seegers, 2008). Understanding the structure and representation of the online tourism domain is important in implementing successful marketing campaigns (Werthner & Klein, 1999; Xiang et al., 2008). Hotels traditionally use a variety of different distribution channels, including distributing through other properties within their chain, joining marketing consortia or other types of affiliation organizations, or outsourcing to representation or third-party reservation companies. Most hotels also use intermediaries such as travel agents, tour operators, or incentive houses. Increasingly, hotels are making use of the growing range of electronic-distribution channels. In all cases, the objectives of using the channel are twofold, namely, to make relevant and timely information conveniently available to the hotel's potential customer; and to make it easier for guests to book the property in question (O'Connor 2002). The structure of the online tourism has changed drastically owing to the appearance of social media as new players in the field of travel information exchange. However, past research on the online tourism domain has, to a great extent, only considered interactions between the online traveller and the so-called "tourism industry". One important limitation in the existing literature on social media is that there is a lack of understanding of its role in online travel, especially the likelihood for an online traveller to be exposed to and actually use these social media Websites when looking for travel information. Currently available information about travellers' use of social media has been based upon data collected through self-reported questionnaires (e.g., using a question such as "how often do you use a specific social media Website") and thus, the degree of objectivity is very limited (e.g., Gretzel & Yoo, 2008). Studies have usually been based upon controlled experimental settings by asking subjects to conduct a trip planning task online in order to understand the psychological effects of social media on travellers (e.g., Mack et al., 2008). Given these limitations, the extent to which social media constitute the online tourism is not well understood in an objective, comprehensive way. First and foremost, the emergence of social media has given rise to issues with respect to how tourism marketers can leverage social media in order to support their online marketing efforts (Gretzel, 2006). Many travel and tourism operations have also recognized the importance of including consumer-generated content on their websites, usually in the form of edited testimonials (e.g. VisitPA.com and Sheraton.com). Marketing researchers often use the label "electronic word-of-mouth" to describe the impact of such media content (Litvin et al., 2008). Schmallegger and Carson (2008) suggested that strategies of using blogs as an information channel encompass communication, promotion, product distribution, management, and research. It seems that current tourism marketing practice focuses attention on utilizing social media to create positive image and word-of-mouth for tourist destinations and businesses. However, without a solid understanding of the role of social media in online travel information search, tourism managements' ability to take advantage this "market intelligence" is limited (Blackshaw & Nazzaro, 2006).

3. Understanding the role of customer reviews

The importance of WOM has been widely documented in the existing literature (Anderson, 1998; Goldenberg et al., 2001; Stokes and Lomax, 2002; Zhu and Zhang, 2006). In the Internet era, the effect and distribution of WOM have been further enhanced as individuals can make their opinions easily accessible to other Internet users (Dellarocas, 2003). The influence of electronic WOM is directly applicable to tourism and hospitality as Pan et al. (2007) stated that online user-generated reviews are an important source of information to travellers. Gretzel and Yoo (2008) further lamed that travel reviews are often perceived as more likely to provide up-to-date, enjoyable, and reliable information than content posted by travel service suppliers. Additionally, Goldenberg et al. (2001) showed a consumer's decision-making process is strongly influenced by WOM. Likewise, Chevrier and Mayzlin (2006) examined the effect of consumer reviews on books at www.Amazon.com and www.Barnesandnoble.com, and found that WOM can significantly influence book sales. On the contrary, some prior studies reported that online user-generated reviews are perceived as having lower credibility than traditional WOM due to the absence of source cues on the Internet (Smith et al., 2005; Dellarocas, 2006). As such, the influence of consumer reviews needs to be further tested in different contexts.

Marketing theorists would relate this informative component of a review to consumers' product or brand awareness (Keller, 1993). In the consideration set model of consumer decision making (Roberts & Lattin, 1991), awareness is a key variable. The model describes consumer choice as a multi-stage process in which consumers construct increasingly small mental sets of choice options (Vermeulen, 2009). At the first of these stages, consumers narrow down the universal set, i.e., the set of all possible choice options, to the awareness set, the set of choice options that they can recall under given circumstances. At this stage, options with a higher salience – for example due to intensive advertising – have a better chance of being

recalled and thus making it to the awareness set (Alba & Chattopadhyay, 1986). At the second stage, consumers narrow down the awareness set to the consideration set, the small set of options that they are willing to consider. At this stage, consumer attitude toward the choice options is pivotal (Priester, Nayakankuppam, Fleming, & Godek, 2004). At the final stage, consumers narrow down the consideration set to a very small choice set, or to a single item of choice. At this stage, factors that might lay outside of the marketers' influence, such as product experience (Hoeffler & Ariely, 1999) and the availability of retrieval cues (Nedungadi, 1990), play a decisive role.

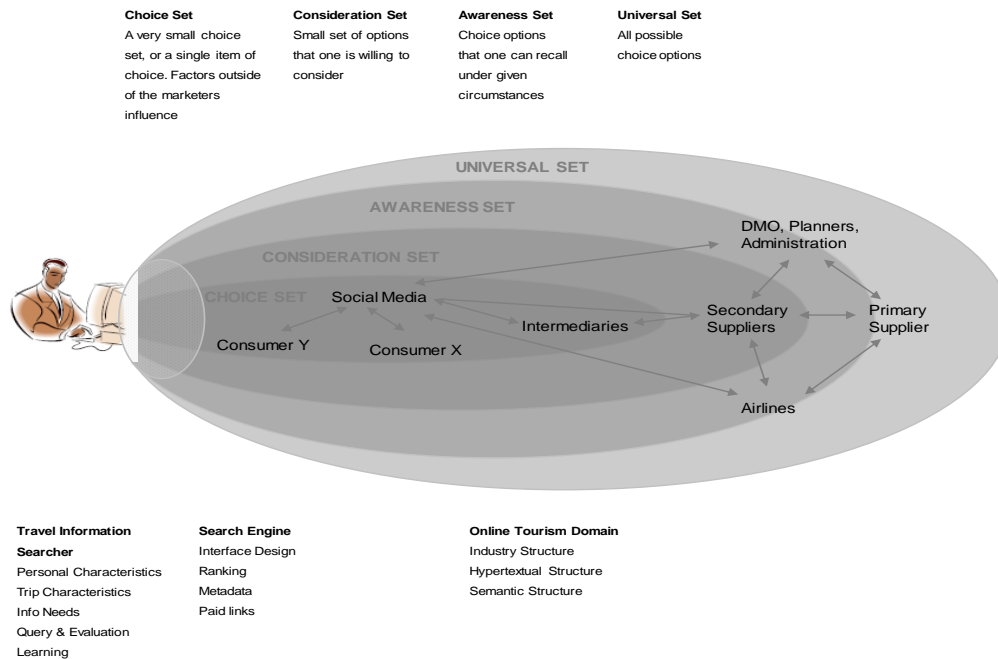


Fig. 1. The Consideration Set Model within Online Tourism Domain (Adapted from Ziang, et al., 2008)

It is argued that the impact of social media in travel and tourism must be understood in relation to the overall online tourism. By taking into consideration the important role of search engines in travellers' use of the Internet, Fig. 1 provides a conceptual framework illustrating the interactions between an online traveller, a search engine, and the online tourism and the consideration Set Model (Roberts & Lattin, 1991). It is adapted from Xiang et al.'s (2008) original framework, which was based upon a number of past studies focusing on online travel information search behaviour (Hwang, Gretzel, Xiang, & Fesenmaier, 2006; Pan & Fesenmaier, 2006; Werthner & Klein, 1999). It includes three key components: (1) the online traveller, who is driven by a number of personal and trip-related needs; (2) the online tourism domain, which is composed of informational entities provided by a number of "players", including individual consumers through means of social media. This tourism domain has a distinct semantic structure determined by the hypertextual nature of the Internet and the tourism industry structure; and, (3) the search engine, which in large part determines the representation of the tourism domain through the design of interface features, search result rankings, metadata, and paid links and, as a result, influences the traveller's perception and decision making. This framework is useful in that it stresses the complexity of the online tourism domain and the dominance of search technology. Consequently, online tourism marketers potentially face fierce competition from social media because the search process can lead millions of consumers to highly-relevant social media content pages that can influence attention, awareness, trial, and loyalty levels (Blackshaw & Nazzaro, 2006). As marketers strive to know how to provide attractive, persuasive, and technologically sustainable marketing programs online, they must also compete with consumer-generated content in numerous social media Websites. This is because the very presence of social media potentially rides the audience pool, impact, as well as reaches of their Web-based marketing programs, and can have significant effect on their branding efforts (Xiang & Gretzel 2009). Following from the conceptual framework, this study focuses attention on the role of social media in the online tourism domain within a travel planning context and decision making by analyzing the relations between customer reviews and the hotel performance.

Based on the previous literature and findings from earlier studies, four research questions were formulated:

Q1a. *Is there a relationship between the number of reviews written and the performance of a hotel?*

Q2a. *Is there a relationship between customer review averages and the performance of a hotel?*

Q3a. *Is there a relationship between recommendation percentage and the performance of a hotel?*

Q4a. *Is there a relationship between the Tripadvisor Ranking and the performance of a hotel?*

4. Methodology and research design

In order to answer the above research questions, a data mining exercise was devised. A set of hotels were defined in combination with the revenue statistics of the chosen hotels. Content analysis of the reviews and multivariate analysis approaches were used to understand the data.

The focus of the study was on urban destinations to keep the information search context constant. Five northern European cities, ranging from large to small in terms of volume of visitation, population size as well as reflecting a certain geographic diversity, were selected to represent urban tourism destinations. These destinations include Stockholm (Sweden), Copenhagen (Denmark), Oslo (Norway), Helsinki (Finland), Tampere (Finland). Riyadh (Saudi-Arabia) was selected to test the hypotheses in different cultural and economical environment. This selection of cities was deemed appropriate given the exploratory nature of the study. Tripadvisor was selected as the main information source for Customer Generated Content and STR Global reports for the appropriate hotel performance.

The idea was to first collect all possible review-related data from the Tripadvisor website. These aspects included: (1) The amount of reviews written per hotel; (2) the average of ratings given to a hotel; (3) percentage of recommendation of the hotel (4) the Tripadvisor popularity index of the hotel.

At the same time, the performance data was collected from the selected hotels by using researcher's access to STR Global statistics in certain cities and by requesting the data from Hotel General Managers (Stockholm, Oslo and Copenhagen).

The selection of hotels from Tripadvisor, within mentioned cities was limited to first page (top 20) hotels. Adapting the past literature (e.g., Spink & Jansen, 2004), the majority of search engine users will only review search results in the first three pages (assuming 10 search results on one page by default). In this study, search results on the first page of cities search on Tripadvisor were retrieved in order to provide a comprehensive representation of the city in the context of online trip planning.

4.1. Coding and data analysis

The retrieved data from Tripadvisor was formatted by cities in excel sheets and the names of the hotels were transformed into codes to protect the confidential business figures. The STR Global performance data was manually inserted into created city sheets. The inserted data was cross checked by two anonymous inspectors to prevent errors in transfer.

Pearson product-moment correlation coefficient (PMCC) was used to measure the strength of linear dependence between variables. Data concerning the popularity index in relation to the hotel performance was analysed using the Spearman Rank Order Correlation.

Cities Selected	6
Hotels Selected	77
Hotels Total	520
Reviews Analysed	1752
Reviews Total	6021

Fig. 2 Analysed review data from www.tripadvisor.com

5. Findings

The correlation coefficient (r) ranged from -0.307 to 0.7528. The results in different cities were statistically close to each other and the first city studied (Stockholm) gave a positive answer to three of the four original research questions: there was a clear positive linear correlation between the variables in question.

5.1. The relationship between number of reviews written and the performance of a hotel?

There is a considerable relationship between the number of reviews written and the average daily rate and revenue per available room with the correlation being higher than 0.6. The result also showed that the number of online reviews can significantly increase the occupancy of a hotel, but the linear correlation between these variables was not that clear, correlation being 0.5 with significant variations between cities.

5.2. The relationship between customer review average percentage and the performance of a hotel?

A positive relationship between the review average and the average daily rate and Revenue per available room was found with the correlation being higher than 0.6. The results also identified a high correlation between rating average and the occupancy level. With the highest correlation in Copenhagen ($r = 0.7$) and in all cities higher than 0.4 these two variables have a clear positive correlation.

5.3. The relationship between customer recommendation percentage and the performance of a hotel?

The customer recommendation percentage had the highest correlation in all performance areas. There was a clear correlation between the recommendation percentage and occupancy with the r being higher than .7. There was also a considerable correlation between the recommendation percentage and revenue per available room with the correlation being higher than .6 and close to .7 in Copenhagen. The result also showed that a higher recommendation percentage of the reviews has a positive correlation to the average daily rate of hotel room, but the linear correlation between these variables was not that clear, r being .4.

5.4. The relationship between the Tripadvisor Ranking and the performance of a hotel?

Using Spearman Rank Correlation there was no evidence found in relation between Tripadvisor popularity index and the hotel performance.

6. Discussion

This study explored the profitability of hotels and the possible effect of online consumer-generated reviews. Unlike Ye et. al., (2009) this study used real, unbiased performance statistics from a neutral service provider. Although the investigation involved a very limited number of destinations and a handful of hotels, the findings revealed interesting dynamics in some of the key areas in hotel performance and customer generated property reviews. Thus, this research contributes to the understanding of the importance of customer generated content and its implications for online tourism management in a number of ways.

While exploratory in nature, this study offers useful insights and findings of the relation between the number of reviews written and the customer satisfaction expressed in these reviews. The study presents evidence of the relation between the reviews written in Tripadvisor and the hotel occupancy level, average daily rate and revenue per available room. It is also necessary to consider the studied Tripadvisor popularity index relevant in terms of existence and visibility of the property because the hotels are presented in the order of popularity index and therefore influencing in the consideration and choice set in purchasing decision process.

Second, this study provides an extended understanding of the potential tension between two types of travel information providers, i.e., the tourism industry and online consumers. It has become obvious that certain social media Websites such as TripAdvisor, and IgoUGo, which can be considered more comprehensive and travel-specific sites, are becoming increasingly popular and are likely to evolve into primary online travel information sources. In addition, the growth of social media is not only represented by these frequently used Websites but also by the existence of different types of social media and numerous small sites within a travel information search setting. Particularly, blog sites (e.g., travelpost and blogspot) and social networking sites are making inroads into the territories that used to be dominated by traditional suppliers. The results confirm that tourism marketers can no longer ignore the role of social media in distributing travel-related information without risking becoming irrelevant.

Tourism managers are facing challenges resulting from the shift in distribution channels and the emergence of new medias (Fesenmaier, 2007; Werthner & Klein, 1999). In response to these changes, tourism marketers need to understand the technological dynamics in order to better reach out and promote their businesses and destinations to online travellers. With the recent changes on the Internet that allow for easy content generation, consumers are gaining more power over what and how information is distributed and used on the Internet (e.g., Tapscott & Williams, 2006).

The results of this study provide inputs on which tourism management can reflect their current online strategies. Since it has been argued that the future of Internet-based tourism will be focused on consumer centric technologies that will support tourism organizations in interacting with their customers dynamically (Buhalis & Law, 2008), this study provides useful insights into the new avenues tourism managers need to pursue in order to achieve such a goal. The findings clearly indicate a great need for quality management efforts as well as service recovery procedures to ensure that the property is represented and can compete with the rankings of social media sites. An alternative strategy is to embrace social media and (1) advertise or provide contents on those sites or (2) integrate social media components on the tourism destination or supplier Website.

7. Limitations and future research

Given its exploratory nature, this study has limitations. In addition to the lack of comprehensiveness due to the limited number of hotels and destinations selected, this study employed only an introductory view and raised the issue of the importance of the customer generated reviews. Other mainstream travel related review and information sites such as zagat.com, virtualtourist.com, booking.com etc. should be included in future analyses to reflect the mediation of these services in a more comprehensive way. Further, future studies should focus on improving the external validity for this line of research by including more destinations, reflecting a greater range of types of destinations and geographic areas. This will also allow for additional comparisons and analysis of the online tourism domain beyond the context used in this study. In this study, hotel performance was measured from the viewpoint of revenue per available room. In future research it would be essential to broaden the term 'profitability' by introducing measures like Gross Operative Profit (GOPPAR) which could portray the overall influence. A goal of future research could also be the development of practical tools (e.g., benchmarking systems) to keep track of the change in the role of social media in order to provide useful and timely insights for tourism managers.

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