

## The impact of online user reviews on hotel room sales

### 1. Introduction

The rapid growth of Internet applications on hospitality and tourism leads to an enormous amount 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 had shown online user-generated reviews could significantly influence the sales of products like books, CDs, and movies (Chevlier and Mayzlin, 2006; Ghose and Ipeiritis, 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 (Klein, 1998). 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 in China, we make an initial attempt to investigate the impact of online WOM on hotel bookings at the organization level. We aim to incorporate research on the effect of online consumer-generated reviews into online hotel booking services, one of the largest Internet applications. 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. The remaining parts of this paper are organized as follows. A review of related literature is presented in the next section. The section after that introduces the empirical model and data used in this study. Section 4 reports the empirical results, and Section 5 summarizes the study.

### 2. Literature review

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 claimed 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, Chevlier and Mayzlin (2006) examined the effect of consumer reviews on books at [www.Amazon.com](http://www.Amazon.com) and [www.Barnesandnoble.com](http://www.Barnesandnoble.com), and found that WOM can significantly influence book sales. Moreover, Ghose and Ipeiritis (2006) tested the impact of online reviews on a variety of products, and stated that certain online reviews could reduce cognitive loads of readers and thus result in more 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. A study on the

impact of online reviews on hotel room sales at the organization level would certainly be useful for hospitality practitioners to better understand the importance of electronic WOM on their businesses.

### 3. Data

The data used in this study were retrieved from Ctrip (URL: [www.ctrip.com](http://www.ctrip.com)), which is the largest travel website in China. Ctrip has a mechanism that enables consumers to input reviews for their hotel stays. In this research, a crawler was developed by Ruby to download web pages of consumer reviews and hotel information from Ctrip. Another Ruby-based system was developed to parse HTML and XML web pages into a database. The data collection was conducted in February 2008, and the crawler was used to retrieve all available information of hotels in three randomly selected large cities in China (Guangzhou, Chongqing, and Xi'an). Every consumer reviews for a hotel was collected since it joined Ctrip. This study thus focuses on consumer reviews posted during the 12 months between February 2007 and January 2008. Totally, we have 3625 reviews for 248 hotels during the study period.

Prior studies suggested that customers rarely view online comments beyond the first two web pages (Pavlou and Dimoka, 2006). To control for the limitation of consumer attention, we establish a moving window of the most recent 20 reviews over the study period. Each day, we identify the most recent 20 reviews and calculate the average and standard deviations of the review ratings. We then average the average rating and standard deviation over the study period to reflect the average consumer opinion of the hotel during the study period and the variability of the opinion.

### 4. Empirical results

As indicated in Table 3, there is a significant relationship between the independent variables and dependent variable with an Adjust R-square of 67.8%. The result showed that positive online reviews can significantly increase the number of bookings in a hotel, and the variance or polarity of WOM for the reviews of a hotel had a negative impact on the amount of online sales. The results further suggested that a 10% improvement in reviewers' rating can increase sales by 4.4% and a 10% increase in review variance can decrease sales by 2.8%. Additionally, hotels with higher star ratings received more online bookings, but room rates had a negative impact on the number of online bookings. Furthermore, the GDP of the host city had a positive impact on the number of online bookings.

### 5. Conclusions

This study contributes to the hospitality literature by revealing the influence of online consumer-generated reviews on the amount of online sales of hotel rooms. Additionally, a methodological contribution is made by introducing a proxy to identify the number of online bookings on a travel website. Our results suggest that online user reviews have an important impact on online hotel bookings. Findings of this research are consistent with prior studies in other fields. Hotel managers should, therefore, seriously consider online reviews, especially those that were posted on a third-party website, about their hotels. Future research, such as the refinement of the evaluation model, is needed to improve the generalization of research findings in this area.