



## EXPLORING SOCIAL MEDIA MANAGEMENT ON HOTEL PERFORMANCE

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### Abstract

This paper investigates how managing online reviews affects hotel performance. An international hotel chain provided the hotel performance data and the online review data. A leading social media firm for the hospitality industry collected the online review data, which the hotel company purchased. The results indicate that overall ratings are the most salient predictor of hotel performance, followed by response to negative comments. The better the overall ratings and the higher the response rate to negative comments, the higher the hotel performance. Therefore, online reviews in social media, specifically overall rating and response to negative comments, should be managed as a critical part of hotel marketing.

Keywords: Social media, Online reviews, Hotel performance

### Introduction

With the current ease of online access, social networking sites offer what was never before thought possible: constant connectivity between people (Jansen et al., 2009). Although it has only been in existence for a short while, social media is a phenomenon that is evolving into an important part of all businesses' marketing and client base development strategies. (Anderson et al.,

2012). One of the most important roles of social media is diffusing information by electronic word-of-mouth (eWOM) (Goldenberg et al., 2001). Research shows that WOM or eWOM on social media sites is one of the most powerful ways to form consumer attitudes about a product or service (Podnar and Javernik, 2012). WOM referrals have greater carryover effects than traditional marketing methods and cause more immediate reactions (Trusov et al., 2009). In this

Internet era, eWOM has become more effective than interpersonal WOM communication since anyone can easily spread his/her product or service opinions to strangers via the Internet (Hoffman and Novak, 1996). Accordingly, companies should make serious efforts to understand the impact of online reviews and prepare better marketing strategies to address social media.

Online reviews are a popular form of eWOM, so customers use them to share information about products and services, and the information from online reviews has a critical effect on customer purchase decisions (Coulter and Roggeveen, 2012). A customer's exposure to online reviews increases his/her awareness of a hotel and amplifies his/her consideration of it (Vermeulen and Seegers, 2009). Positive contents in online reviews increase the number of hotel rooms booked (Ye et al., 2009), thereby improving hotel revenues (Anderson, 2012). Social media has played an increasingly important role in affecting hotel guests' satisfaction and service process enhancement, and social media may influence guests' purchase behavior and hotel performance (Anderson, 2012). Despite some of the progress made by the above studies, the understanding of the specific impact of online reviews is still limited, and hotel executives and managers as well as academics in the field of hospitality would benefit from more attention to the subject. Thus, to fill this void, this study attempts to explore the effect of online reviews and other information related to online reviews on hotel performance. The research uses ADR and RevPAR, which

are the most popular hotel performance metrics, to measure each hotel's performance.

## Literature Review

Many studies have demonstrated that online reviews affect consumer behaviors, such as purchase intention and product purchasing. According to Noon and McGuire (2013), who investigated the effects of user-generated content on consumers' prepurchase evaluations of hotel service, positive reviews play a significant role in consumers' evaluations of service quality and value. In the context of the retail business, comprehensive and objective online reviews boost customer purchase intentions (Lin et al., 2011), and improved reviews for a book drive the growth of book sales (Chevalier and Mayzlin, 2006).

In terms of hospitality literature, a 1-point increase in a 5-point review score generates 11.2% of a hotel's room rate premium (Anderson, 2012). Ye et al. (2011) examined the impact of user-generated content reviews on online hotel bookings, and they demonstrated that higher average review ratings lead to higher numbers of online hotel bookings. In addition, user-generated content (UGC) and UGC-derived ratings have a significantly positive effect on hotel choice (Noon and McGuire, 2013). Also, according to Ye et al. (2009), higher ratings lead to more room bookings. Drawing on the previous empirical support, the following hypothesis is formulated:

**H1.A** better overall rating leads to

greater hotel performance.

The number of reviews a product/service receives has been identified as one of the most important review attributes (Ghose and Ipeirotis, 2011; Sun, 2012). A greater number of book reviews posted online generates higher book sales for that website because more reviews indicate greater popularity of the book (Chevalier and Mayzlin, 2006). In a similar research, Liu (2006) demonstrated that it is not the valence of WOM but the amount of WOM on movie websites that explains box office revenue; thus the volume of WOM is invaluable in predicting box office sales. Another group of researchers, Ye et al. (2009), utilized the number of reviews as a proxy for the volume of hotel bookings in their study because they thought a posted review could represent a guest's stay at the hotel. According to Zhu and Zhang's study (2010) of online games, there is a significantly positive relationship between the number of reviews of online games and the sales of online games. Meanwhile, a positive WOM valence increases the quantity of WOM, which in turn generates higher box office revenues in the movie industry (Duan et al., 2008). The above findings lead to the development of the following hypothesis:

**H2.** The number of online reviews is positively related to hotel performance.

Customers' online reviews indicate customer satisfaction or dissatisfaction about the hotel service, and the hotel can react to customers' satisfaction or dissat-

isfaction through response to reviews. In particular, negative reviews represent customers' dissatisfaction or service failure, and responses to negative reviews are critical for mitigating customers' dissatisfaction or recovering service failure (Smith and Bolton, 1998). Since responses to negative reviews (complaints) in recent service recovery literature play a role that is just as important as traditional remedies, for example, apology, follow-up, explanation, and acknowledgment, the hotel can alleviate customer dissatisfaction or recover its service failure by fully taking advantage of response to negative reviews (Miller et al., 2000).

Research also shows the way a firm responds to negative reviews (complaints) has a critical influence on customer satisfaction (Homburg and Furst, 2007), customer loyalty, and customer retention (Davidow, 2003). It is very important for service providers to address complaints in order to make customers feel that their problems are addressed and are handled seriously by the firms because such treatments relieve customer dissatisfaction and prevent negative WOM (Susskind, 2005). However, O'Connor's research (2010) indicated that few hotel managers are actively responding to guests' online reviews, and thus many hospitality firms are not handling customers' negative comments properly. Lee and Song (2010) also confirmed that taking no action against negative reviews damages a firm's reputation.

In sum, negative online comments or complaints from customers should be

carefully managed by service providers in order to recover customer dissatisfaction, which will in turn enhance a firm's financial performance. When considering the positive link between a firm's response to online reviews and a firm's profit (Chen and Xie, 2008) as well as the previous literature mentioned above, the following hypothesis can be established:

**H3.** A higher response rate to negative comments in online reviews leads to greater hotel performance.

The variance of opinions has been identified in previous studies as an inevitable component of online reviews (Moon et al., 2010; Sun, 2012; Ye et al., 2009). Sun (2012) collected online ratings from two major online book retailers, Amazon and Barnes and Noble. Her empirical findings confirmed that a higher standard deviation in book ratings is strongly related to lower book sales. A standard deviation of ratings in the movie industry indicates the variability of customer opinions and reveals the customers' risk tolerance levels when selecting movies, so a higher standard deviation of ratings has a negative association with future movie ratings, which in turn leads to lower sales (Moon et al., 2010). For example, a high standard deviation shows customers' choices are experimental and risky, so customers may easily be disappointed with a movie. In addition, Ye et al. (2009) demonstrated in their study that the variance of online review ratings had a significantly negative effect on hotel bookings. Drawing on the previous empirical findings from retail businesses, the following

hypothesis is established:

**H4.** The standard deviation of overall ratings is negatively associated with hotel performance.

### Methodology

With the support of hotel companies, in 2021, 6 months of data was collected from 62 hotels in Taiwan. All 62 hotels are full-service hotels. The data includes online reviews and performance indexes such as ADR and RevPAR. Except for the online reviews, data on all of the variables were obtained directly from the company's internal database. Star ratings for these hotels, ranging from three to five stars, indicate that the sample represents a homogenous group of hotels in terms of service ratings, thereby validating the reliability of the data. A leading social media consulting firm for the hospitality industry collected online review information from major online travel intermediaries and social media websites, including TripAdvisor, Priceline, Hotels.com, Expedia, and Yelp. Online review information was obtained from these websites because they are popular and recommended by most customers. The numeric ratings on most review sites are expressed using a 1–5 star scale; for the review sites that use a different scale, the consulting firm normalized the ratings into the standard 1–5 scale. The consulting firm created composite monthly rating information for the studied hotels by calculating the weighted average of ratings based on the websites' popularity. The international hotel chain purchased the online review information from the consulting firm.

To test the hypotheses, we identified

**Table 1** The effect of online reviews on ADR

	ADR				
	B	SE	$\beta$	t-Value	VIF
(Constant)	154.200	31.549		4.888***	
Overall rating	125.528	23.534	.481	5.334***	1.194
Number of reviews	.378	.423	.143	.893	3.782
Response to negative comments	4.808	2.224	.197	2.161*	1.219
Standard deviation of ratings	-.042	.034	-.118	-1.213	3.528
Diamond rating	3.782	8.963	.036	.416	1.103

Note:  $F = 6.735^{***}$ ,  $R^2 = .230$ , Adjusted  $R^2 = .196$ .

\* Significance at the .05 level

\*\* Significance at the .01 level

\*\*\* Significance at the .001 level.

five independent variables, including a control variable and two dependent variables. The five independent variables, which are predicated upon previous studies, pertain to customer reviews. In this study, based on the operational definitions of Chevalier and Mayzlin (2006), Ye et al. (2009), and Zhu and Zhang (2010), online review was identified as a comprehensive term including the average overall rating, number of reviews, and standard deviation of overall ratings. On the other hand, the dependent variables, based on hotel performance, were identified as ADR and RevPAR, which are the most commonly accepted top-line performance measures of hotel business. ADR refers to the average daily rate (hotel room revenue/the number of rooms sold) while RevPAR is the revenue per available room (a hotel's ADR x occupancy). In this study, we performed multiple regression analyses using SPSS 20 in order to analyze the data.

### Results

The results of analyzing the relationship between online reviews and hotel performance are shown in Tables 1

and 2. Table 1 verifies the impact of online reviews on ADR; there was a significant relationship between online reviews and ADR ( $F = 6.735^{***}$ ,  $R^2 = .230$ ). Among the four elements of online reviews, customers' overall ratings had the most significant effect on ADR ( $\beta = .481$ ,  $p < .001$ ), followed by response to negative comments on ADR ( $\beta = .197$ ,  $p < .05$ ). In other words, as overall rating improves or hotel responds to negative comments, customers are more likely to pay the price premium (ADR). Contrary to our expectations, the volume of reviews and the standard deviation of overall ratings did not have significant effects on ADR. The control variable—the diamond rating, which is an objective indicator of hotel rating—also had no significant effect on ADR.

Table 2 shows the results for the analysis with RevPAR as a dependent variable and indicates that the relationship between online reviews and RevPAR was significant at the 0.001 level ( $F = 7.292^{***}$ ,  $R^2 = .249$ ). The results are in line with the findings above where ADR was used as a dependent

variable. The over-all ratings had the greatest impact on RevPAR ( $\beta = .507, p$

$< .001$ ), and response to negative comments also had a significant

**Table 2** The effect of online reviews on RevPAR

	RevPAR				
	B	SE	$\beta$	t-Value	VIF
(Constant)	122.667	23.715		5.173***	
Overall rating	99.532	17.628	.507	5.646***	1.180
Number of reviews	.423	.325	.212	1.299	3.912
Response to negative comments	3.624	1.669	.199	2.171*	1.227
Standard deviation of ratings	-.034	.026	-.206	-1.306	3.651
Diamond rating	-.774	6.723	-.010	-.115	1.101

Note:  $F = 7.292^{***}$ ,  $R^2 = .242$ , Adjusted  $R^2 = .215$ .

\* Significance at the .05 level

\*\* Significance at the .01 level

\*\*\* Significance at the .001 level.

effect on RevPAR ( $\beta = .199, p < .05$ ). That is, as overall ratings get better or as hotels give a response to negative comments, the hotel can increase its financial performance. However, there were no significant effects of number of reviews, standard deviation of ratings, or diamond rating on RevPAR.

The results show that customers' overall ratings and response to negative comments were positively associated with the increase of ADR and RevPAR, lending support to H1 and H3. The insignificant effect of number of reviews and standard deviation of ratings on hotel performance showed H2 and H4 to be incorrect.

In order to detect the presence of multicollinearity, the variance inflation factor (VIF) value was calculated. It ranged from 1.10 to 3.91, which is smaller than a common cutoff point of 10, indicating multicollinearity is not a serious problem.

## Conclusions

This study contributes to hotel marketing and social media literature by investigating the impacts of online reviews and responses to online reviews. A salient theoretical contribution of this study includes offering hotel companies the benefits of better understanding existing online reviews and ways to respond to online reviews in order to enhance customer experiences. The findings are consistent with those of Chen and Xie (2008). Responding to customers' negative online comments delivers to customers the message that the firm listens to guest complaints and is willing to make up for service failures-responding to customers will result in higher financial performance for the firm (Chen and Xie, 2008). The results of this study are also in line with Davidow's findings (2003), which demonstrated that organizational responses to customers work as a form of service recovery and can prevent a firm's market loss from dissatisfied customers. Although the interaction between hotels and customers plays a pivotal role in relationship marketing, many hotels are not taking full advantage of social media as a way of inter-

acting with customers (Chan and Guillet, 2011). Since communication between sellers and customers is important, response to online reviews is a desirable method of communication (Susskind, 2005).

In the current study, overall ratings are the strongest predictors of hotel financial performance, as measured by both ADR and RevPAR. This finding supports a positive relationship between ratings and a firm's performance (Chevalier and Mayzlin, 2006; Ye et al., 2009). Ye et al. (2009) indicate that obtaining actual hotel financial performance data such as room sales revenue is a challenge, and they used the number of online published reviews as a proxy for actual hotel room bookings or the number of rooms sold. One of the major contributions of this study is that it empirically supports the impact of online reviews on actual firm-level hotel performance data such as ADR and RevPAR, in contrast to numerous empirical findings derived from survey-based studies or one or two websites. By utilizing aggregated online reviews and actual hotel performance data, the results of this study can represent 'real' decisions made in 'real' situations (Houston, 2004) and provide pragmatic implications to hotel marketers regarding the impact of social media on hotel performance.

Businesses today must explore how to fully utilize both traditional media and new social media for marketing. They should neither depend only on traditional marketing nor completely convert their channels to online marketing but instead

discover how to maximize their communications through interactive media in order to reach their customers. Whether reviews are positive or negative, exposure on social media can help hotels create strong brand awareness and enhance the chances of bookings by increasing eWOM advertising (Vermeulen and Seegers, 2009). Marketers should employ social media as an online distribution tool as well as a service recovery tool and a way to help develop relationships with customers and build brand loyalty within communities (Chan and Guillet, 2011).

Hotel marketers should collect and monitor overall ratings as an overriding internal metric such as traditional customer satisfaction ratings. In addition, hotel managers should make their best efforts to improve online reviews, thereby enhancing hotel performance. Achieving a better online review can lead to positive testimonials, great eWOM communication, and a strong brand reputation for a hotel. The positive eWOM of social media can help save traditional offline promotion expenses in commercial advertisements and coupons (Trusov et al., 2009). Furthermore, hotel managers should pay attention to negative online reviews and examine the drivers of negative reviews in order to learn from their mistakes and to identify areas for improvement. Negative reviews may be attributed to tangible (e.g., room cleanliness, facilities, and location) as well as intangible (e.g., service and staff members' attitudes) elements, so managers can demonstrate how hotels deal with some deficient areas by responding to customers, and they can in-

crease budget allocations in the right areas for hotel improvement. By improving the relatively deficient areas in hotel products and services, hotels can expect much better online reviews from customers.

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