

# **The multiple effects of review attributes on hotel choice decisions: a conjoint analysis study**

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## **Abstract**

The impact of reviews on travelers' decision making is well documented but few studies evaluate the relative importance of the various review attributes. The objective of this research is to highlight and explore several key factors affecting consumers' hotel choices. A sample of 60 subjects, using an experimental design and conjoint analysis, is used in order to understand the relative importance of key attributes and their impact on hotel selection. The results reveal higher review rating, higher review frequencies and less review variations are much more critical to hotel choice and are rated higher than star-ratings and price. Additionally, our research shows that price and wide variations in ratings have a negative impact on choice.

**Keywords:** review attributes, hotel choice, conjoint analysis. hotel decision making

## **1. Introduction**

A hotel room can be viewed by consumers as a combination of various attributes (Jannach, Gedikli, Karakaya & Juwig, 2012), and consumers make trade-off decisions amongst various hotel attributes before deciding their final selection (Goldberg, Green & Wind, 1984). The impact of reviews on travellers' decision making is well documented (Ayeh, Au & Law, 2013; Pesonen, 2013), but few studies address the interaction between reviews and other hotel selection criteria and there is less focus on using experimental design to understand the relationship between reviews and hotel choices.

Although the importance of reviews alone is well documented (Coker, 2012; Noone & McGuire, 2013; Ong, 2012; Sparks & Browning, 2011; Vermeulen & Seegers, 2009), the review is not the only criterion. The aims of this paper are twofold. Firstly, the role of additional variables (frequency and variation of review postings) on hotel choice will be examined. It is important to understand how both review frequency and variation interact with other attributes, such as price and star ratings, in the decision making process. Secondly, a conjoint analysis will be applied to understand how each attribute influences hotel choice. The relative importance of these attributes will thus be identified. The research findings will enhance our understanding of the relationship between reviews and other common hotel choice attributes, the impact of hotel reviews on hotel choices, and help managers make more informed decisions when managing reviews.

## **2. Literature Review**

Travellers often consult online hotel review sites before making their hotel purchases (Kim, Mattila & Baloglu, 2011). Exposure to online hotel reviews can contribute to

the inclusion of the hotel in the consideration set (Vermeulen & Seegers, 2009; Jang, Prasad, & Ratchford, 2012).

Several researchers have investigated the impact of hotel reviews on accommodation purchase decisions. Vermeulen & Seegers (2009) found that both positive and negative reviews increase customers' awareness and improve attitude toward hotels, especially for the less-known hotels. Sparks & Browning (2011) and Coker (2012) found that context and "consideration set" has an impact on booking intentions, trust, and evaluations. Yet, the research designs for previous studies only ask subjects to evaluate one hotel at a time and focus only on how the review content impact on travellers' attitudes, without considering other variables.

Given the abundant hotel information available online, it is reasonable to assume travellers won't be motivated to read all reviews for all hotels. When travellers go to hotel review sites such as Tripadvisor, they can see the overall review ratings score before they even start to read the review content. Therefore, it is arguable that the highly visible review ratings could influence travellers' decisions to read (or not) the full reviews for hotels.

Furthermore, it is common to have several hotels with similar hotel review ratings. Given similar or even identical review ratings shared by several hotels, travellers must use additional information to make decisions. Therefore, on hotel review sites, review ratings tend to be presented along with additional information, such as star ratings of the hotel, the number of reviews, and prices. The authors of this research argue that the impact of reviews on the purchase decision comes from the combination of all this information. Hence, it is important to understand how consumers value these variables and if customers assign different priorities or weights to variables, as well as what trade-off decisions hotel customers are prepared to make.

### **3. Methodology**

The attributes identified in this research include star ratings, review ratings, the number of reviews, review variation, and price. With the exception of review variation, all other attributes are available on all popular reviews sites such as Tripadvisor, Expedia, and Booking.com. Review variation is available only on Tripadvisor, though consumers are familiar with variation in non-travel review pages such as in amazon.com, walmart.com, and cinema.ch. Therefore, subjects should understand the meaning of review variation. As these attributes are available on major websites, they should represent important information for purchase decisions.

To avoid the potential bias created by multiple levels of variables and subject fatigue, researchers decided to keep 2 levels for each variable. Hence, this research adopts a 2 x 2 x 2 x 2 x 2 research design. These variables include price with two levels: average and high, numerical ratings with two levels: average and high; variation of reviews: small and large, the number of review postings: low and high: 4-stars and 5-stars. The attribute levels are presented in Table 1, and 8 profiles were generated by SPSS orthogonal design.

**Table 1.** Attribute Levels

<b>Attribute</b>	<b>Levels</b>
Star Ratings	<ul style="list-style-type: none"><li>• 4 stars</li><li>• 5 stars</li></ul>
Review Ratings	<ul style="list-style-type: none"><li>• Average</li><li>• High</li></ul>
The Number of Reviews	<ul style="list-style-type: none"><li>• Low</li><li>• High</li></ul>
Review Variations	<ul style="list-style-type: none"><li>• Small</li><li>• Large</li></ul>
Price	<ul style="list-style-type: none"><li>• Average</li><li>• Above Average</li></ul>

The subjects are undergraduate students enrolled in a marketing course in a hotel management program in Switzerland. Conjoint analysis is not part of the course content nor has it been discussed in the classes. A total of 60 subjects participated in the study.

The subjects were instructed to visualize going to a new destination, where they need a place to stay and select 8 hotels, which are then ranked in the order of the most favourite to the least favourite and they then submit their preferences. After the instruction, each subject received a set of 8 profiles on 8 separate cards, they then sorted the hotel profiles based on their preferences, and entered their preferences, ranked in order, in the online survey questionnaire that accompanied the experiment.

#### **4. Results**

The data were analysed using SPSS 20. Table 2 presents the relative importance of the five key attributes. Among these 5 attributes, the most important attribute is review ratings, followed by frequencies, variations, stars, and price. Hence, review related variables (e.g. ratings, frequencies, and variations) are more important to these subjects than hotel related variables (e.g. stars and price).

**Table 2.** Relative Importance of Attributes

<b>Attribute</b>	<b>Averaged Importance Score</b>
Review Ratings	38.924
Frequencies	21.753
Variations	17.343
Stars	11.351
Price	10.629

Table 2 also presents the coefficient estimates of five variables and confirms the overall review ratings score is by far the most important attribute in this study. Results reveal that review ratings, frequencies all have positive effects on hotel preferences, while price and review variations have a negative impact on preferences. Notably, the finding reveals that star ratings also have a negative impact on preferences, which is contradictory to the researchers' expectations.

#### **5. Conclusions, implications and limitations**

Among these 5 attributes, extrinsic review related attributes are more important than hotel intrinsic attributes (star ratings and price). Therefore, hoteliers should encourage customers to post reviews on popular review sites because not only do ratings matter,

but also frequencies and variations. Ratings matter because they may be the first edit that customer perform when selecting hotels for consideration and therefore the factors that compose the overall ratings score must be clearly understood by hoteliers. Additionally, the ratings directly impact on visibility of the property on review sites with customers less likely to scroll through pages to lower ranked properties.

Customers prefer hotels with more reviews and with less review variations. Unfortunately, hoteliers cannot control review variations and frequencies directly but can encourage more reviewing of the hotel experience and monitor variation. Hoteliers can deliver a more reliable experience and improve operations with the feedback from reviews, which may reduce review variations in the long run. To retain or increase market share in the hotel industry, it is clearly no longer just about price, (Noone & McGuire, 2013). Consumers are turning to reviews and ratings to inform their hotel purchase decisions and seek “value”. This indicates that in order to compete effectively, hoteliers must monitor how their online reputation compares to their competitive set, particularly in their shared distribution channels, which now frequently give/ link to overall ratings, review volumes and variation. This has further implications for revenue managers, in particular, who have focused primarily on pricing strategy to win customers.

A major limitation is in the sample design which is based on a student population that is mostly < 21 years old and is highly familiar with user generated content and trusts it as source to form opinions. So, though these results are insightful, generalisation of the findings to a wider population should be processed with caution. This research investigated 5 attributes, with two levels each, and a more multi-level model will be considered as this research progresses.

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