Hotel Pricing in a Social World
Contents

Introduction................................................................................................. 1

The Interplay Between Price, Consumer Reviews and Consumer Ratings.................................................. 1

  Quality: Price Is Not the Issue................................................................. 2

  Value: Price Is Only Part of the Picture ................................................. 2

  Worst-Case Scenario........................................................................... 3

The Power of the Negative Review ......................................................... 4

  Consumer Choice Behavior .................................................................. 4

  Understanding the Results ................................................................... 5

  Recognizing the Impact of Negative Reviews ................................... 5

  Comparing Low-to-Mid Versus Mid-to-High Ratings and Rankings .................................................. 5

  Examining Responses to Open-Ended Questions ......................... 5

  Learning More From Open-Ended Questions ................................... 6

Conclusion.................................................................................................. 7

Learn More .................................................................................................. 7

Kelly McGuire, Executive Director, Hospitality and Travel Global Practice for SAS, developed content for this paper. The paper is based on a series of studies that McGuire conducted in conjunction with Breffni Noone, Associate Professor of Hospitality Management at The Pennsylvania State University.
Introduction

Pricing at hotels has changed dramatically over the last decade. The advent of online travel agents created an environment of price transparency, where – for the first time – consumers could easily compare hotel prices in a market. This has forced hotels to not only compete more directly on price, but to pay close attention to competitors’ price moves as they set their own pricing strategies.

As user-generated content (UGC) proliferates on social media sites, review sites and other social sharing mechanisms, a wealth of new information about the hotel experience becomes available. Now consumers can access reviews and ratings that reflect detailed opinions from their peers, right at the point of purchase. This is available through review sites, online travel agents and even hotel websites. This content allows consumers to evaluate hotel value using information that some consider more genuine - and therefore more credible - than traditional, firm-generated content. With this, the hotel industry finds itself in a new buying environment that can be called value transparency.

To continue to price effectively, hotel revenue managers need to understand how consumers use UGC with price to make hotel purchase decisions. To explore this concept, Kelly McGuire of SAS and Breffni Noone, Associate Professor of Hospitality Management at The Pennsylvania State University, conducted a series of studies set in the context of an online hotel purchase. The researchers share their results in the remainder of this paper, revealing key insights that hotel revenue managers will find important to their pricing strategies.

The Interplay Between Price, Consumer Reviews and Consumer Ratings

Academic research tells us that consumers’ perceptions of quality and value drive their purchase behavior. To understand how consumers make purchase decisions, we needed to understand how the interplay between price, consumer reviews and aggregate consumer ratings influences their quality and value perceptions.

We designed a study that replicated the experience of purchasing a hotel room online. For the study, we recruited a representative sample of the US population to participate in an online survey. Participants were presented with one of eight scenarios based on a typical online purchase of a four-star hotel room for a three-night leisure trip. In each scenario, we varied the following:

- Price (low and high relative to an established reference price).
- Aggregate rating (low or high out of five).
- Review sentiment (mostly positive or mostly negative).

We asked participants to evaluate the quality and value of the hotel in the scenario they were presented with. The definitions of the eight scenarios are shown in Figure 1.

<table>
<thead>
<tr>
<th>Code</th>
<th>Price</th>
<th>Rating</th>
<th>Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>LHP</td>
<td>Low</td>
<td>High</td>
<td>Positive</td>
</tr>
<tr>
<td>HHP</td>
<td>High</td>
<td>High</td>
<td>Positive</td>
</tr>
<tr>
<td>LLP</td>
<td>Low</td>
<td>Low</td>
<td>Positive</td>
</tr>
<tr>
<td>HLP</td>
<td>High</td>
<td>Low</td>
<td>Positive</td>
</tr>
<tr>
<td>LHN</td>
<td>Low</td>
<td>High</td>
<td>Negative</td>
</tr>
<tr>
<td>HLN</td>
<td>High</td>
<td>Low</td>
<td>Negative</td>
</tr>
<tr>
<td>LLN</td>
<td>Low</td>
<td>Low</td>
<td>Negative</td>
</tr>
<tr>
<td>HHN</td>
<td>High</td>
<td>High</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Figure 1: Scenario definitions.

---

Quality: Price Is Not the Issue

In Figure 2, you can see the mean perceived quality by scenario (on a scale of 1 to 7). The blue bars represent high price, and the red bars represent low price. You’ll notice that there does not appear to be much difference between low- (red) and high-price (blue) scenarios at the same levels of ratings and reviews. You’ll also notice that the scenarios with positive reviews (P) had the four highest-quality perceptions.

Our statistical analysis showed that price had no significant relationship with quality. Positive reviews were associated with higher perceptions of quality. Aggregate ratings also had a positive relationship with quality perceptions, but it was weaker than the review relationship.

Value: Price Is Only Part of the Picture

Value is defined as what you give for what you get, meaning economic considerations will come into play. So, not surprisingly, looking at the low-price (red) and high-price (blue) bars in Figure 3, the low-price scenarios tended to have higher value perceptions (on a scale of 1 to 7). But there are still some high-priced scenarios (blue) mixed in with the low-priced scenarios - so not all low-priced scenarios received higher value perceptions. Ratings and reviews also seemed to have some impact on value perceptions.

Statistically, there was a three-way interaction between price, aggregate ratings and reviews. This means that UGC altered the magnitude of the negative relationship between price and value perceptions. To investigate these effects, we split out the high- and low-priced scenarios and looked at the value perceptions by rating and review levels.
In Figure 4, the high-priced scenarios are on the top. The blue bars represent high ratings, and the orange bars represent low ratings. So the first blue bar on the high-priced chart (top) represents the average value perception for the high-priced, positive-rating, positive-reviews scenario. The same blue bar on the low-price chart (bottom) represents the average value perceptions for the low-priced, positive-review, high-ratings scenario. For both high and low prices, positive reviews increase value perceptions (see the first two bars on each chart compared to the second two bars). Ratings have no statistical impact in the high-priced scenario.

**5 Tips for Revenue Managers**

Our findings suggested some important tips for revenue managers to consider as they build pricing strategies in the new world of value transparency.

- **Tip 1. Consumers do not use price as an indication of quality if ratings and reviews are available.** This is good news for revenue managers, because it means that they can adjust price (within reasonable bounds) to generate short-term demand without affecting long-term quality perceptions.

- **Tip 2. Competing on price alone is not a winning strategy.** Consumers will look closely at your UGC, and that of your competitors, when making a purchase decision. This means you can’t undercut (or raise) your price simply based on the price movements of your competitors. You must understand how your UGC compares, by evaluating consumers’ value perception of your hotel versus the competition.

- **Tip 3. Reviews are more important to consumers than ratings.** Our research showed that consumers look to reviews over aggregate ratings to form quality and value perceptions. This runs counter to some theoretical arguments that suggest consumers are “information misers,” preferring a metric that’s easier to consume (like an aggregate rating), as opposed to an information-rich review. We hypothesize that the uncertainty associated with a hotel experience leads consumers to want to gather as much information as possible to mitigate risk.

- **Tip 4. Good reviews are not a license to charge more.** Consumers still prefer to pay the lowest price. This means that if all other things are equal, you’ll drive demand to your property if your price is lower. If you are clearly better than the competition, you’ll be able to push the price. If you aren’t, it’s not that simple.

- **Tip 5. It’s hard to overcome bad UGC.** Our results indicated that lowering the price of a badly rated and negatively reviewed property provides no additional value in the minds of consumers. If you happen to be in that unfortunate position, you should keep the price up, and take what you can get – which, according to our results, won’t be much. Use your energy to fix the problems with your property instead of worrying about how it is priced.
The Power of the Negative Review

In the first study, we asked consumers to evaluate their perceptions of one hotel property so we could understand how the presence of UGC and price influenced quality and value perceptions. Knowing this, we wanted to explore how consumers make trade-offs when forced to choose among alternative hotel properties. Using the same context (an online purchase of a four-star hotel for a weekend leisure break in a major city center), we designed a choice modeling experiment.

In the experiment, we asked consumers to select the hotel they would buy from a choice of three, with varying levels of key attributes. We again used a representative sample of the US population through an online survey. Participants were asked to select among three alternatives, and they did that exercise three times. We then asked them to write down what they were thinking while they made their choices. Figure 5 shows the attributes and the attribute levels we tested in the study.

Since our first study clearly demonstrated the power of reviews in consumers’ assessment of the quality and value of a hotel purchase, we wanted to learn more about how consumers react to reviews. In this study, we tested to find out if what the reviewers talked about (content) and the way they talked about it (language) had an influence on choice behavior.

Consumer Choice Behavior

Figure 6 shows the results of the choice modeling experiment. In this type of analysis, the output is the value that is placed on an attribute (or its level) relative to the other attributes. It gives you a sense of how likely a consumer would be to choose a hotel with that attribute. In this case, the value of the numbers is less important than their magnitude and direction relative to the other attributes. Attributes with a star (*) were significant predictors of choice. Red represents a negative impact.

Here we see that the negative impact of a negative review is greater than going from low to mid price, or from mid to high price. You can also see that the positive impact of high versus mid ratings would not overcome the negative impact of raising price or of negative reviews. Note that the ratings and TripAdvisor ranking are only significant when the move is from a mid to a high ranking. The move from low to mid ranking was not significant.

**UTILITY BY ATTRIBUTE**

---

Understanding the Results

Our results showed that review valence (positive or negative) had the most significant impact on choice, followed by price, overall rating and TripAdvisor rank. Brand had a significant impact, with consumers preferring a known brand - but just barely.

Interestingly, review content and language were not significant. We hypothesized two reasons for this. First, the overwhelming power of the review valence may have overshadowed any effect of content or language. Once consumers noted that the review was negative, they moved on, not caring what it actually said. The other possible reason (which was backed up by the open-ended responses described later), is that consumers care about service and physical property equally, so they don’t distinguish between the two when assessing hotel value.

Recognizing the Impact of Negative Reviews

Choice modeling lets you compare the overall value of a hotel choice at various sets of attributes, and then evaluate how different combinations of attribute levels influence this overall value. In our study, the combination of attributes that resulted in the highest consumer value was:

Positive Review + Low Price + High TripAdvisor Rank + High Rating + Known Brand = 1.95

When you hold everything else constant and just evaluate the highest price, note the change in overall value:

Positive Review + High Price + High TripAdvisor Rank + High Rating + Known Brand = 0.46

The value drops significantly with the higher price, indicating that consumers do prefer a lower price. Now notice what happens when you hold everything constant and change from positive to negative reviews:

Negative Review + Low Price + High TripAdvisor Rank + High Rating + Known Brand = 0.01

The value to the consumer drops to practically nothing. This is the power of those negative reviews.

Comparing Low-to-Mid Versus Mid-to-High Ratings and Rankings

Notice from Figure 6 that even though aggregate ratings and TripAdvisor ranking attributes were significant, only the movement from midrange to high had a significantly positive impact on consumer value. Consumers did not value a movement from a low to a midrange score. This result provides a nuance to recent research that describes a positive performance impact from improving your ratings scores. That performance impact will only be felt if you are already at a midrange score and are able to move to a high score. The same is true for TripAdvisor rank. Positive impact will only be felt as the hotel moves from a midrange ranking to a high rank.

Examining Responses to Open-Ended Questions

We gained some additional insight into how consumers make value judgments when provided with price and UGC information at the point of purchase through the open-ended questions we asked about what they were thinking during the study. The majority of participants mentioned the importance of the reviews. Price was the next most frequently mentioned attribute, followed by aggregate amenities. A small percentage of participants mentioned that they would consider location or amenities, TripAdvisor rank and brand when making a choice (Figure 7).

IN THEIR OWN WORDS

Figure 7: Attributes mentioned in open-ended questions. The numbers on the pie chart show the number of times each attribute was mentioned. The percentages (in parentheses) represent the percentage of total respondents who mentioned an attribute (some respondents mentioned more than one attribute).

Learning More From Open-Ended Questions

Figure 8 provides more detail about the specific information sources consumers said they considered when making choices. The chart breaks down the frequency with which certain groups were mentioned. The bars are color coded according to whether the consumers specifically mentioned value (yellow), assessed value without using the word (i.e., balancing what they must give – price – for what they will get from the hotel), or whether they only mentioned the “give” or the “get.” Notice that very few respondents only mentioned the price (the “give”) from the value equation. The vast majority of consumers were thinking about information they could use to assess value.

Some participants only mentioned one information source as influencing their choice, while others used a combination of sources (Figure 8). The results showed that 34.7 percent mentioned reviews only. “Customer reviews are paramount to making my decision to stay at a hotel,” remarked one participant. Another commented, “I chose the rooms that had the best reviews, which is what I always do.” Results also showed that 8.4 percent of the respondents mentioned reviews in combination with other types of information – specifically, 3.4 percent mentioned them in combination with aggregate ratings.

Many participants described trade-offs they made between different types of information. For example: “Customer feedback played more of a role than customer ratings provided, since the ratings only tell half the story and are not as detailed as feedback.” Another commented that “recent negatives for me will outweigh a high customer rating, since that tells where the hotel currently sits.”

About 23 percent of respondents focused solely on price, saying things like “Price came first” and “I still focused on price.” Still, price was mentioned with greater frequency in combination with other attributes (35 percent of respondents). And 19.3 percent mentioned price with reviews, speaking about the trade-off they made between these attributes. One respondent wrote, “The price was taken into consideration, but if a lower price room is in a hotel with bad service and other negatives, I would always go with the higher price. If the rooms at the other two places were clean, had good service and other positives, the less expensive of the remaining two would be chosen.”

Key Takeaways

- **Reviews and price trump all other factors.** Our research suggests that positive reviews are the primary motivators for consumer choice behavior, followed by lower price. To a lesser extent, consumers do pay attention to aggregate ratings, TripAdvisor rank and brand name. But it appears that consumers are not too concerned about the content and language of reviews.

- **Negative reviews remove you from the choice set. Period.** Low price or high ratings and ranking will not overcome the negative impact of negative reviews. Consumers simply will not choose a hotel that has negative reviews.

- **Consumers prefer to pay a low price.** While consumers will go for a higher-priced hotel when the lower-priced hotel has negative UGC, they still prefer to pay the lowest price possible. All things being equally positive, they will look for the lowest price. Hotels need to pay attention to how their reviews compare to the competitors when setting price.

- **Consumers only notice high aggregate ratings and TripAdvisor rankings.** Consumers do not place any value on the comparison between low and midrange aggregate ratings and TripAdvisor rankings. This adds a nuance to the recent study4 from the Cornell Center for Hospitality Research, which found an 11.2 percent increase in pricing power for each point increase in a rating metric. Our study suggests that hotels will only see this benefit if they raise their ratings from a midrange score to a high score.

---

4 Social Media and Lodging Performance. The Analytic Hospitality Executive. SAS. blogs.sas.com/content/hospitality/2013/01/22/social-media-and-lodging-performance/.
Conclusion

Revenue managers need to carefully evaluate their pricing opportunities in light of this research. If your hotel has positive UGC, it would be easy to interpret this research as a license to raise price. While our research supports a relationship between positive UGC and pricing power, raising price may not be the best answer for an individual hotel. Instead, revenue managers should consider their market position and their long-term business strategy and goals. Are you at the same “reputation position” as your competitors? Are there loyalty implications to a price change? How does the price change affect the brand strategy? Does the hotel have a market share strategy it’s trying to execute? How would a price increase influence plans for qualified business?

Competing on price alone is not an effective strategy for hotels that want to continue to boost revenue and share.

Revenue managers need to have a sound understanding of their own price, demand, reputation and value proposition – and that of the competition. Some of the data we included in this study is not traditionally tracked or stored by the revenue management department or by revenue management systems (although this is changing). With all of the new factors that can influence demand patterns and consumer reaction to price, revenue managers must begin to collaborate with counterparts in other departments like marketing and operations. Revenue managers should take an active role not just in setting prices, but also in determining how those prices are presented to the consumer as part of the overall value proposition of the hotel stay.

There is more work to be done to gain a complete understanding of the mechanisms that underlie consumer buying behavior in today’s social world. But it’s clear that competing on price alone is not an effective strategy for hotels that want to continue to boost revenue and share. Consumers are turning to user-generated content, and reviews in particular, to inform their hotel purchase decisions. To compete effectively, hoteliers must understand how their prices and reputations compare to the competitive set; specifically, how they’re positioned relative to the competition in terms of review sentiment. In an era of value transparency, hotels simply must understand their value proposition from the consumer perspective.

Learn More

Discover how powerful the right pricing strategies can be in this white paper: Strategic Pricing: The Secret Sauce of Executives.

Untangle the complexity of price optimization as you read this white paper: Demystifying Price Optimization: A Revenue Manager’s Guide