

12-30-2014

# Understanding Consumers' Inferences from Price and Nonprice Information in the Online Lodging Purchase Decision

Breffni M. Noone  
*The Pennsylvania State University*

Stephani K. A. Robson  
*Cornell University, skr4@cornell.edu*

Follow this and additional works at: <http://scholarship.sha.cornell.edu/articles>

 Part of the [Hospitality Administration and Management Commons](#)

---

## Recommended Citation

Noone, B. M., & Robson, S. K. (2014). *Understanding consumers' inferences from price and nonprice information in the online lodging purchase decision* [Electronic version]. Retrieved [insert date], from Cornell University, SHA School site: <http://scholarship.sha.cornell.edu/articles/997>

This Article or Chapter is brought to you for free and open access by the School of Hotel Administration Collection at The Scholarly Commons. It has been accepted for inclusion in Articles and Chapters by an authorized administrator of The Scholarly Commons. For more information, please contact [hlmdigital@cornell.edu](mailto:hlmdigital@cornell.edu).

---

# Understanding Consumers' Inferences from Price and Nonprice Information in the Online Lodging Purchase Decision

## **Abstract**

The sustained success of variable pricing for revenue management (RM) is dependent on the creation of appropriate price points at which to sell a given product offering. To date, few studies have considered the impact of nonprice information on consumer reaction to price, and none have investigated the relative weights that consumers assign to price and the nonprice information available to them during different phases of the purchase choice process. This exploratory study uses a combination of eye tracking and retrospective think-aloud (RTA) interviews to examine how consumers consider the price and nonprice content generated by the firm and the nonprice information generated by other consumers during two distinct phases of the online choice process: browsing and deliberation. This study's findings suggest that during browsing, firm-generated content appears to be very influential, particularly the image selected to represent the property in search results. Both firm-generated and user-generated content play a role in hotel choice during deliberation, with the interplay among several types of information being an important indication of value for consumers.

## **Keywords**

revenue management, consumer choice process, eye tracking, price, hotel image, brand name, consumer reviews and ratings

## **Disciplines**

Hospitality Administration and Management

## **Comments**

### **Required Publisher Statement**

© **INFORMS**. Final version published as: Noone, B. M., & Robson, S. K. (2016). Understanding consumers' inferences from price and nonprice information in the online lodging purchase decision. *Service Science*, 8(2), 108-123.

doi: 10.1287/serv.2016.0141

Reprinted with permission. All rights reserved.

Understanding Consumers' Inferences from Price and Nonprice Information in the Online

Lodging Purchase Decision

Breffni M. Noone

Pennsylvania State University

Stephani K.A. Robson

Cornell University School

December 30, 2014

Final version published in *Service Science* (2016), 8(2), 108-123

**Author Note**

Breffni M. Noone, Pennsylvania State University, University Park, State College,  
Pennsylvania 16802, [bmn2@psu.edu](mailto:bmn2@psu.edu)

Stephani K. A. Robson, Cornell University School of Hotel Administration, Ithaca, New  
York 14853, [skr4@cornell.edu](mailto:skr4@cornell.edu)

The authors wish to gratefully acknowledge the Cornell Hospitality Research for funding  
this research.

### **Abstract**

The sustained success of variable pricing for revenue management (RM) is dependent on the creation of appropriate price points at which to sell a given product offering. To date, few studies have considered the impact of nonprice information on consumer reaction to price, and none have investigated the relative weights that consumers assign to price and the nonprice information available to them during different phases of the purchase choice process. This exploratory study uses a combination of eye tracking and retrospective think-aloud (RTA) interviews to examine how consumers consider the price and nonprice content generated by the firm and the nonprice information generated by other consumers during two distinct phases of the online choice process: browsing and deliberation. This study's findings suggest that during browsing, firm-generated content appears to be very influential, particularly the image selected to represent the property in search results. Both firm-generated and user-generated content play a role in hotel choice during deliberation, with the interplay among several types of information being an important indication of value for consumers.

*Keywords:* revenue management; consumer choice process; eye tracking; price; hotel image; brand name; consumer reviews and ratings

## Understanding Consumers' Interferences from Price and Nonprice Information in the Online Lodging Purchase Decision

Over the past 20 years, the Internet has revolutionized the way that consumers make lodging purchase decisions. In addition to being able to search for prices, consumers have access to a wealth of nonprice information, which allows them to compare alternative hotel properties in terms of the benefits they can expect to receive for the amount they pay. Some of this nonprice information includes content generated by the hotel firm (firm-generated content (FGC)), such as descriptions of the facilities, professional photographs of the property, and information about hotel services and amenities, whereas other information comes from peers (user-generated content (UGC)), in the form of reviews, aggregate ratings, or images posted on social media sites. Consumers may use any or all of this FGC and UGC along with price to weigh the value propositions of competing properties during the online hotel search and to make a final purchase decision.

Hotel revenue management (RM) practice has focused primarily on price, attempting to create appropriate price points at which to sell a given product offering at a particular time. Although emerging price optimization systems enable hotel operators to set prices based on forecasted demand, the elasticity of demand, and competitors' prices (Cross et al. 2009), these systems do not capture the potential influence that nonprice information can have on consumers' value perceptions and thus their purchase decisions. Pricing a hotel's rooms below those of competitors may yield little improvement in market share if that hotel has poor reviews or if the hotel photography is unattractive.

RM practice is only just beginning to assess the potential conversion power of nonprice information. Prior research has examined how lodging consumers use nonprice information such

as brand image or consumer reviews along with price in prepurchase evaluations (Bian and Liu 2011, Chiang and Jang 2007, Kim and Perdue 2013, Noone and McGuire 2014) and in eventual hotel choice (Noone and McGuire 2013, Pan et al. 2013). However, there has been little attention focused on precisely how consumers use FGC and UGC during different phases of the purchase choice process. Noone and Robson (2014) identify two stages of the online hotel choice process—browsing and deliberation—and examine the types and quantities of FGC and UGC that consumers look at during each stage. Although their findings provide some insight into what FGC and UGC consumers look at during browsing and deliberation, they do not shed light on the inferences that consumers make from the information that they view. For example, what kinds of images draw a consumer to consider a specific hotel? What does a hotel brand name or building design communicate to the consumer, and how do they weigh this information against pricing or consumer reviews? To better understand how consumers use price with other information sources to inform the lodging purchase decision, revenue managers need to have insight into the inferences that consumers make from the information available to them and be aware of how this information is used during both the browsing and deliberation stages of a hotel search.

In this study we build on the report by Noone and Robson (2014) by using a combination of eye tracking and retrospective think-aloud (RTA) interviews to examine how consumers think about the FGC and UGC that they view during browsing and deliberation and to gain insight into how this information informs consumers' eventual hotel choice.

This paper begins with a review of the literature on the role of price in RM and consumers' use of price and nonprice information in hotel choice. We then describe the study's methodology, present the findings of the paired eye tracking/RTA interviews, and discuss the implications of our research for practitioners.

## **Background Literature**

### **Pricing for RM**

RM is in transition from a stand-alone tactical approach to inventory management to a strategic, customercentric approach to demand creation that encompasses marketing, sales, and channel strategy (Noone et al. 2011). A key component of this transition is RM's treatment of price, with a movement away from inventory management toward price optimization. Price optimization solutions first quantify price elasticity and use that output to generate optimal prices. These prices are then combined with competitor price data to forecast how customers will respond to price changes.

Whereas the price transparency afforded by the Internet has fueled the adoption of price optimization models, the Internet's role as an information and booking source has changed the way that consumers approach the purchase decision process. In the early days of online booking engines, consumers could easily compare different travel service providers on the basis of price and other content such as brand name, brand logo, property descriptions, and professional photographs of the property. Because these attributes are under the control of the travel service provider, we categorize these elements as FGC. The more recent development of travel review websites (e.g., TripAdvisor), social networking sites (e.g., Facebook, Twitter), photo and video sharing applications (e.g., Instagram, Pinterest, YouTube, Flickr), and the integration of content created by consumers into online travel agent, brand, and property websites has enabled consumers to evaluate lodging alternatives using additional nonprice information generated not only by the properties themselves, but also by other consumers whether they are known to the individual or not. We define this UGC as reviews, photos, ratings, and other subjective information contributed by consumers to represent their views of a travel offering.

Recent research suggests that consumers are increasingly willing to rely on UGC as a key source of product-related information, and it has been shown to influence perceived value (e.g., Gruen et al. 2006), behavioral intent (e.g., Park et al. 2007, Park and Kim 2008), and forecasted (Eliashberg and Shugan 1997) and actual sales (e.g., Basuroy et al. 2003, Chevalier and Mayzlin 2006, Ye et al. 2009). The effects of firm-related information such as brand name and logos on perceived quality (e.g., Dodds et al. 1991), consumers' attitudes, their purchase intentions (Woo et al. 2008), and their brand loyalty (Müller et al. 2013) have also been demonstrated. Although price optimization systematically incorporates competitor prices in the derivation of optimal price points for a given travel service, those price points may not drive anticipated demand if consumers are swayed by other forms of information such as brand name, brand logo, property photos, or consumer reviews as they make their purchase decisions. For optimal revenue gain, the right competitive positioning on both price and quality is imperative. To determine how to best leverage price to drive market share, RM needs to understand if and how consumers are integrating UGC and FGC with price when they book online.

Prior research on consumer response to RM pricing has focused primarily on perceived fairness as the outcome variable. Customers' perceptions of the fairness of RM pricing and related rate fences have been found to be affected by the amount of information disclosed to customers (e.g., Choi and Mattila 2004), the framing of prices (discount versus surcharge; Kimes and Wirtz 2003), and familiarity with revenue management pricing practices (Wirtz and Kimes 2007). The impact of price presentation strategies on consumers' fairness perceptions and willingness to book has also been examined (e.g., Noone and Mattila 2009). Looking more closely at hotel choice, two recent studies by Noone and McGuire (2013, 2014) investigated consumer use of price with nonprice FGC and UGC in the online hotel purchase process. Using

discrete choice analysis, Noone and McGuire (2013) examined how hotel consumers trade off price with a number of nonprice attributes including UGC, TripAdvisor rank, brand name, ratings, and reviews in hotel choice. They found that although all types of information had a significant effect on hotel choice, review valence emerged as the dominant choice driver. In their study of the relative roles of price and UGC in consumers' prepurchase evaluations, Noone and McGuire (2014) found that, in the presence of UGC, price did not have a significant effect on perceived quality. Price and UGC had a significant effect on value, although consumers relied more on consumer reviews than aggregate consumer ratings when evaluating price–benefit trade-offs. Together, the results of these two studies suggest that, rather than simply compete on price, revenue managers must understand how nonprice information impacts consumer choice.

### **Price Information, Nonprice Information, and the Purchase Choice Process**

Researchers have long hypothesized a two-stage choice process in which consumers first select a subset of available products to form a consideration or choice set and then, from that reduced set of products, choose a single product to purchase (Bettman 1979, Gensch 1987, Shocker et al. 1991, Wright and Barbour 1977). Prior research suggests that consumers use different decision rules for each phase, both in the context of tangible products (Dhar and Wertenbroch 2000, Aribarg and Foutz 2009) and intangible purchases such as hotel stays (Jones and Chen 2011). A decision rule describes the set of attributes that factor into the consumer's evaluation of a product when making a choice. It has been proposed that consumers favor simplified decision rules that use just a subset of product attribute information when forming a consideration set, but they use a more effortful rule when making their final product choice (Bettman et al. 1990). For example, Moe (2006) found across two different product categories that, on average, fewer attributes are used as criterion attributes when selecting a subset of

products for consideration than when making a final choice. She also found that specific attributes tend to be used only in one phase of the decision process, whereas other attributes play a role in both phases.

In the online environment, consumers are exposed to different combinations of price and nonprice information during the two stages of the choice process: browsing and deliberation (Noone and Robson 2014). In the context of hotel choice, browsing occurs when consumers look through information regarding available hotels and apply personal heuristics to identify hotels that warrant further scrutiny. Deliberation occurs when a hotel is selected for a more detailed review by means of clicking on a link within search results. These hotels are deemed part of the consumers' consideration set. Noone and Robson (2014) found that during browsing, consumers primarily view FGC, including hotel name, images, price, and location, in addition to aggregate consumer ratings. During deliberation, consumers look at a mix of FGC and UGC, although they fixate most on images, closely followed by firm-provided descriptions.

In this exploratory study, we build on the work of Noone and Robson (2014) using a combination of eye tracking and RTA interviews to examine how consumers use FGC and UGC during browsing and deliberation. This combination of research methods provides a robust approach to capturing consumers' decision processes. The eye movements captured during eye tracking provide a valid indication of the visual information being accessed by consumers (Russo 1978, Wedel and Pieters 2008). A playback of the consumer's eye movements then provides a prompt during a RTA interview wherein the consumer recalls their thought processes during the choice process. Many consumers are unable to accurately describe their decision processes from memory, nor are they always conscious of what factors influence them. Interviews supported by eye-tracking visualizations can offer increased validity to consumers' descriptions of their

thought processes at a particular time or in response to a given stimulus (Ball et al. 2006, Atalay et al. 2012). See Robson and Noone (2014) for a detailed discussion of eye tracking as a consumer research tool.

Using this eye tracking/RTA approach, we seek to address the following research questions:

1. How are lodging consumers thinking about the information they view during the browsing and deliberation stages of an online hotel search?
2. How does this information inform their eventual purchase decision?

### **Research Methodology**

To overcome the limitations of previous studies in terms of the breath of FGC and UGC explored, this study investigates hotel choice in the context of a naturalistic online search. Participants were recruited from the general population by a university survey research center. To be eligible, they must have booked hotel accommodation for a leisure trip using online resources in the preceding six months. This recruitment resulted in 32 acceptable participants, with three generations represented among the participants: millennials (18–32;  $n=11$ ), generation X (33–48;  $n=13$ ), and baby boomers (49–68;  $n=7$ ; Table 1). Within the six months prior to the study, about three-quarters of the participants had made one or two online hotel reservations ( $n=23$ ) and just over half had stayed in a hotel once or twice ( $n=17$ ). Half said their average spend per night on a hotel room is \$100 to \$149 ( $n=17$ ), with one-fourth reporting an average spend in the \$150–\$199 price range ( $n=8$ ). Each participant was compensated with \$15 in cash for a single eye-tracking and interview session between 30 and 60 minutes in length.

This study used a Tobii T60 eye-tracking monitor for data capture and Tobii Studio software for creating animated gaze plot data visualizations to serve as a prompt during the retrospective think-aloud interviews. After calibration of the eye-tracking system, each participant was asked to complete a brief on-screen survey, which captured basic demographic information and self-reported importance ratings of hotel attributes (brand name and “look” of the hotel) and search behaviors (importance of aggregate consumer ratings and consumer reviews in hotel selection). Participants were then instructed to imagine they were planning an upcoming three-day leisure getaway and were directed to search for hotel accommodations for this trip using whichever online resources and procedures they normally adopted when seeking hotel rooms online.

Immediately following each online hotel search, we conducted an RTA interview with each participant, during which they were shown the gaze plot playback of their eye movements during their search and asked to describe their thought processes during both browsing and deliberation. Each interview was recorded, and the resulting transcripts were manually coded for qualitative analysis. Participants’ statements were categorized by themes that were determined based on a priori category definition (Weber 1990) and on the categories of visual information extracted from the quantitative analysis of the eye-tracking sessions. Two independent raters reviewed and coded the data; interrater reliability was acceptable (Cohen’s  $k = 0.90$ ).

## **Results**

By generating fixation data, eye tracking provides objective and quantifiable evidence of the information that consumers look at during the choice process. In RTA interviews, on the other hand, participants watch the gaze plot playback of their eye movements during their eye-tracking sessions and describe the thought processes accompanying their fixations during eye

tracking. To address this study's research questions, we report the results of the qualitative data analysis yielded from the RTA interviews. However, to provide context for the information elements that we focus on in this qualitative analysis, we begin with a brief discussion of the eye-tracking sessions themselves. (For details of the quantitative analysis of these sessions, see Noone and Robson (2014).)

### **Quantitative Analysis of Eye Tracking Sessions**

Participants visited an average of 3.5 websites during their search. Of the 32 participants, 29 began their search on an online travel agent (OTA) or other nonbrand website (e.g., Hotels.com, Expedia.com, TripAdvisor.com). Over half of the participants were members of hotel loyalty programs, but only three went directly to a brand website to begin their search. In this study, we asked participants to indicate their eventual hotel choice by ending their search at the site they would use to book. Eleven participants finished their search at a brand website, although not all of them were loyalty card members. The remaining 21 participants finished their search at a third-party website, primarily Hotels.com ( $n=7$ ) or Expedia.com ( $n=5$ ).

Participants viewed information for an average of 41 hotels during the browsing phase of their search and selected between one and seven hotels for inclusion in their consideration set (mean, 3.1). For hotels that participants viewed during browsing but did not consider further, participants fixated primarily on FGC, fixating approximately once, on average, on the hotel's name (mean, 1.26) and price (mean, 1.10), barely glancing at other information (less than once, on average). There was a higher number of fixations associated with consideration set hotels during browsing, with participants fixating multiple times on brand name (mean, 4.31), price (mean, 3.13), the image of the hotel (mean, 2.5), and, to a lesser extent, aggregate consumer

ratings (mean, 1.62), hotel location information (mean, 1.42), special offers (mean, 1.12), and hotel descriptions (mean, 1.02; Table 2).

During deliberation, participants' visual behavior changed considerably. Although participants fixated multiple times on price during deliberation (mean, 3.93), they fixated most on hotel images (mean, 11.10) and amenity information (mean, 8.08). They also fixated multiple times on consumer reviews (mean, 3.83), consumer ratings (mean, 3.21), and offer information (mean, 2.45; Table 3).

It is interesting to note that there was no clear correlation between the importance that participants' attached to brand name and the "look" of the property during their presearch survey and their eventual fixation behavior. Participants' scores for the importance of brand name (1 = not at all important; 5 = very important) and their average number of fixations on brand name during browsing are represented in Figure 1; there is no definite trend in terms of average number of fixations as stated importance increases. For example, Frank indicated that brand name was somewhat important to him yet his average number of fixations on brand name per hotel was 2.64, whereas Kris indicated that brand was very important to her but only fixated on brand name an average of 1.71 times per hotel. With regard to participants' stated importance of the look of a hotel and their average number of fixations on images, there was little deviation in the number of fixations on images across levels of stated importance during browsing, and no distinct pattern emerged during deliberation (see Figure 2). For example, Kate indicated that the look of a hotel was moderately important to her, but her average number of fixations on images was 34 per hotel during deliberation, whereas Jackie, who stated that the look of a hotel was important to her, fixated on an average of only 1 image per hotel during deliberation.

In terms of search behaviors, during the presearch survey, participants were asked to indicate the importance of aggregate consumer ratings and consumer reviews to their choice process. In terms of ratings, a slight lift in average number of fixations on aggregate consumer ratings was observed during browsing when participants considered aggregate consumer ratings to be very important. However, there was no obvious pattern in the number of fixations on aggregate consumer ratings across levels of stated importance during deliberation (Figure 3). For example, Kat indicated that aggregate consumer ratings were moderately important to her, but her average number of fixations on aggregate consumer ratings was 12 per hotel—well above the average number of ratings fixations across all participants—whereas Janet, who stated that aggregate consumer ratings were very important to her, had an average of 1 fixation per hotel on aggregate consumer ratings. Similarly, during deliberation, there was no clear correlation between fixations on consumer reviews and participants' stated importance of consumer reviews during the search process (Figure 4). Compare, for example, Thomas's average number of fixations per hotel on reviews (7.5), along with a stated importance of moderately important, to Jim's average number of fixations on reviews (0), with a stated importance of very important.

The lack of a distinctive pattern in participants' fixations and their stated importance scores across hotel attributes and search behaviors underscores the importance of using the RTA interview approach to put true meaning to fixation activity. Why, for example, might an individual's stated importance of reviews be high, but the actual number of fixations on reviews be low? By asking participants to discuss their thought processes immediately after their hotel search, aided by the playback of an objective recording of their eye movements to spur their memories, the interviewer can get insights into the true value of information to the consumer and better understand which different types of information are important to the consumer under

different circumstances. The qualitative data obtained from these RTA interviews are the focus of the remainder of this paper.

### **Information Use During Browsing**

It was apparent from the RTA interviews that location information, despite a relatively low average number of fixations per participant, often constituted a baseline criterion for them. For example,

- “It looked like it was further out than where I wanted to be” (Leah, baby boomer on why she passed by a hotel during browsing).
- “It said 15.31 miles away from downtown so I think I’m done looking at this one” (Tim, millennial).
- “His [my husband’s] No. 1 thing is location. Is it close to where we’re—what we’re going to be doing and what we want to see?” (Karen, generation X).
- “I was looking for location and being able to walk to the different things we wanted” (Jim, baby boomer).

As evidenced by the fixation data, participants fixated on hotel descriptions, special promotional offers, and hotel class during browsing. However, the interview data suggest that these information sources did not generate specific inferences during the browsing stage of the choice process. In contrast, price, brand name, hotel image, aggregate ratings, and review volume were frequently cited as important considerations during browsing, as discussed below.

### **Price**

Participants’ behavior and feedback indicated that they have a range of acceptable prices within which they work when reserving a hotel room. Although it can be expected, as we

observed, that consumers would be reluctant to go above their upper price threshold, participants rarely looked at hotel properties with prices below their lower price threshold. As the last comment below in particular suggests, consumers can infer a negative price–quality relationship when a price that falls outside, and below, their “usual” price range:

- “Room rates were probably the first [thing that I looked at]; anything above \$150 to \$200” (Peter, generation X).
- “Why did I scroll by a room for \$100? I was still shooting for \$150” (Alexandra, millennial).
- “A room rate of \$85.00 would be fine. If it was more like, \$50.00, probably not because price usually tells quality somewhat. So if I was with my family, around \$100.00 would probably be our price point” (Kelly, millennial).

Within their acceptable price range, participants sought value. What are they going to get for the price paid? The idea that the focus is on value, rather than price alone, is exemplified by the following comments:

- “I like to get the best deal for—the nicest hotel for the least amount of money” (Nicole, generation X).
- “I want one [hotel] that has the most of all the things I like that is still in my price range” (Kate, generation X).
- “I don’t see a lot of difference between a hotel that’s \$100 and \$125. Yes, if other things being equal, I’ll go with the \$100 one. But it’s not like I’m so keyed on price that every dollar is going to make a big difference” (Janet, generation X).

To assess value and determine hotels for inclusion in their consideration set, participants looked at brand name, images, consumer ratings, and number of reviews in addition to price.

### **Brand name**

Although some participants indicated that they are drawn to boutique and independent hotels that provide a “different” experience, brand name held appeal for the majority of the remaining participants during browsing. Although the majority of participants used a third-party site during browsing, they indicated a preference for branded hotels, driven mainly by a level of trust in the brand, as well as perceptions of consistency and a lower degree of risk. Although only six participants rated brand name as being important or very important to them, lower stated importance scores did not override this brand name effect. See, for example, Kelly’s and Tina’s comments below:

- “I trust [brand name]. [Brand name] is usually pretty good. . . . I haven’t had any problems with them” (Kate, generation X).
- “I’ll stay with anything in their brand, and isn’t like I said, it’s not even about the loyalty card or anything, it’s just I trust their name. And if there’s a lot of trust, I’m a loyal friend and a loyal person in life, so I always show loyalty back to somebody who’s good to me” (Tina, generation X).
- “[Brand name], I mean I feel like they’re kind of the McDonalds. You always know what you’re going to get there. It’s pretty standard no matter what [brand name] you go into” (Nicole, generation X).

- “I’m used to staying in hotels—like chains—where that I recognize the name. So this one where it said [hotel name], I didn’t even really look at that. I don’t recognize the name” (Kelly, millennial).
- “I try to stick with the bigger chains that I know if I do have a bad experience I will complain and they will take care of me” (Tina, generation X).
- “So since this was my first time to Austin, my thought was stay downtown at the brand that I I’m comfortable with. I can check out the town and then maybe next time, I would look for a bed and breakfast” (Leah, baby boomer).
- “If my family has stayed there [a hotel brand], I’m just used to it and comfortable with it so I’m more inclined to choose it again just because I know it” (Isaac, millennial).

Conversely, bad prior experience with certain brands completely eliminated them from consideration for some participants. For example:

- “I eliminated hotels because of brand. The [brand name], the few times that I stayed there, the rooms were not clean, things were—the beds were uncomfortable. And I just decided I wouldn’t stay in that again” (Joseph, baby boomer).

We observed a trade-off with price, where participants spoke to how they weighed brand name with price during browsing, sometimes providing the impetus to pay more and other times being insufficient to cause a participant to go beyond a given price range. For example:

- “I would scroll over price, and if I recognized the name, then I would make a decision based on that” (Kelly, millennial).
- “Well, as soon as I saw [brand name] I just—like I said, of being there before, I’ve had great experiences and it’s only \$2 difference” (Kris, generation X).

- “It was a little expensive compared to what I would normally spend, but isn’t it nicer to know what you’re getting involved in given the fact that it’s a chain versus not” (Nicole, generation X).
- “We tend to sway towards [brand name] just because we know that they’ve always been good to us. Yeah. But a lot of times they’re expensive, so if they’re not in my price range I generally won’t book them” (Karen, generation X).

Aggregate consumer ratings were also used with brand name and price to motivate hotel inclusion in participants’ consideration sets: “Why did I scroll by these less expensive ones up here? Because it’s [brand name]. It’s got an excellent rating and I have experience with it. It’s kind of like a little home away from home. Everything you need is right there” (Teri, generation X).

### **Hotel image**

Participants’ comments suggest that images play an important role in hotel selection during browsing. Images could have either a positive or a negative effect, as reflected in comments like “The picture draws you in” (Kelly, millennial) and “Some pictures are just a major turnoff” (Karen, generation X). Interestingly, one participant, despite fixating on images, and speaking in detail about what is important to her in images, commented: “I go expecting the property not to look like the pictures. It’s always made up in the pictures and the pictures could’ve been taken years ago” (Karen, generation X). So, even though images may not match reality, she was very drawn to them. As observed with brand name, participants traded off images with price to make a decision to click into a hotel as reflected in the examples below. The last comment in particular exemplifies how an image can be used with price to infer value.

- “I usually look and if it looks like the picture is appealing I’ll click it, if it’s in my price range” (Deb, generation X).
- “I’m looking for price. And also I have to admit that picture—you know the picture’s got to do something for me pretty quickly” (Sue, baby boomer).
- “The price was good, but based on the picture they showed [the hotel], it didn’t really catch my eye” (Alexandra, millennial).
- “So then I go to this one. And it was \$101, so I was kind of surprised by that price because from the one picture, I thought it would be a lot more. But because it was low, I went in there [to the hotel website] to take a look” (Kelly, millennial).

When asked what drew them to specific hotel images, participants articulated that exterior shots tended to capture their attention more than interior shots, and they commented, in particular, on three key aspects of exterior shots: lighting, architecture, and surrounding environment (see Table 4 for representative comments on these attributes). Participants’ indicated that lighting can help a hotel to stand out, particularly night shots. Lighting alone caused one participant to assess that a specific hotel was not a fit with her demographic: “[With the lighting] this looked parties—like the picture to me looked like the hotel was not my age category” (Sue, baby boomer). In terms of architecture, a number of participants clearly favored hotel buildings that did not look like conventional hotels or those that displayed interesting architectural features. In particular, those participants that preferred boutique and independent hotels were particularly drawn to architecture that suggested a different experience. Architecture also prompted quality inferences. For example, one participant referred to the arches within a specific hotel’s structure as “elegant” and commented that they made him think that the hotel was “going to be a little bit better maintained and would be a little bit higher quality” (Joseph,

baby boomer). Interestingly, Joseph's comments about images suggest that although consumers may report that the "look" of a hotel has only modest importance to them, they may still rely on images to draw inferences about the property. Hotels that featured greenery in their search result images drew attention, but properties that solely displayed the hotel name or logo in lieu of an image of the property did not appeal to participants. These were regarded as being uninformative (e.g., "A logo doesn't tell you anything" (Joseph, baby boomer)) and can lead to negative quality inferences (e.g., "Because if you're just showing the sign, then there's something wrong with the hotel" (Frank, millennial)).

### **Aggregate consumer ratings**

As with price, it appears that participants had a ratings threshold that they did not like to go below. As the comments below suggest, participants make quality inferences based on rating levels.

- "You don't look at hotels that are under three bullets filled in" (Jackie, generation X).
- "I want it to be at least three stars or higher review wise. If something is way down in the one to two, my lovely spouse has taught me that that usually means something. Knock that off the list : : : " (Mike, baby boomer).
- "I look at the stars or how many circles they have. So if it's over half, it's worth looking at in my book. So, but the more, the better clearly" (Thomas, generation X).

Although higher ratings were preferred, some trade-offs between price and ratings were apparent. For example:

- "Typically I will either rate them [hotels] by guest rating or price, one of those two. Because those are the two factors that I'm typically trying to balance in choosing a hotel. So I'll either sort by guest rating and then look at prices. Like, this one, yes it got the

highest guest rating. It's absolutely fabulous. But it's also \$400 a night" (Janet, generation X).

- "These [hotels] were less expensive but I didn't go into them. Some had like 2.5" (Matt, millennial).
- "It was 3.7 out of 5, but you're not going to get like five out of five for the price range I'm in" (Sue, baby boomer).
- "And I found in my 48 years of experience, I'm not going to find a lot of bargains. I mean, I can find the bargains, but they don't have a lot of ratings. And there are reasons for that" (Thomas, generation X).

Matt's comment above provides an example of the disconnect between the stated importance of aggregate consumer ratings and participants' actual behavior. Matt rated aggregate consumer ratings as moderately important, yet overlooked less expensive hotels because the ratings on those properties did not surpass his acceptable threshold.

A number of participants traded off images with aggregate consumer ratings and price, using all three to establish their consideration set as illustrated by the comments below. The appeal of images is clearly apparent in the last comment.

- "Usually, my thinking is mainly to stay under just the \$150 and to get as high of ratings as I can and the cleanliness of it. I do price and then look at the ratings. If it's high, probably above 7, then if the picture appeals to me, I would definitely be clicking it" (Deb, generation X).

- “I sorted the prices from low to high so I went to the cheapest and I was looking at the price and the rating and then the picture to start comparing—getting a sense of what they have to offer” (Taylor, millennial).
- “I liked that one because it was a little cheaper, it wasn’t excellent [pointing to rating], but the pictures still looked nice, so I clicked on it” (Frank, millennial).

Participants’ comments suggest that experience may play a role in the importance of aggregate consumer ratings to participants. For example, one participant noted, “I used to pay more attention to customer ratings. But I’ve stayed in some places in the last few years that I thought were perfectly fine that got absolutely horrible ratings. And so I don’t count them as much” (Joseph, baby boomer).

### **Volume of consumer reviews**

Although participants’ average number of fixations per hotel on volume of consumer reviews was low, a number of the participants spoke specifically about review volume, indicating a positive relationship between review volume and the weight they put on ratings. More reviews were preferred, with participants indicating more confidence in ratings data where the number of reviews was high. For example:

- “Obviously, if it’s got a fantastic rating, but it’s only two reviews, well then gee it’s probably the owner and his brother. Not exactly reliable information” (Janet, generation X).
- “I really like when there are a lot of reviews because if there are only a few, you can’t really go on a few people’s judgments because some people are really fussy. : : : But I think for the most part if there are hundreds of reviews I think you can go on them pretty well for the most part” (Deb, generation X).

- “The rating here—it was 8.8. The other one was 8.7, but this is out of almost 1,500 reviews. The other one only had 53. So I feel like that’s also a lot more telling”  
(Alexandra, millennial).

### **Information Used During Deliberation**

As indicated by the fixation data, participants fixated the most on hotel images and amenity information during deliberation. Price, consumer reviews, and aggregate consumer ratings also received multiple fixations. The meaning that participants’ attached to these most fixated upon information sources is discussed below.

#### **Hotel images**

As mentioned in Section 4.1, participants fixated the most on images during the deliberation stage. In fact, only two participants did not look at images at all. As with the browsing stage, participants spoke of the importance of images to them during deliberation. As one participant put it: “Pictures are great, you know. They tell a big story.” (Sue, baby boomer). Participants used the images to visualize their hotel stay and make inferences about the type of clientele a hotel attracts. For example:

- “I always look at pictures. I like to see, if I stayed there, what it would look like. So no surprises and things like that” (Kelly, millennial).
- “If I could see myself walking in there and saying I’m happy I made this decision”  
(Alexandra, millennial).
- “The one [hotel] that said that it was free happy hour? I was like wow, okay then. And when I saw this, I thought the kids can be over here [pointing to one side of the lounge area] and I can be there [pointing to an adjacent area]—create a distance, but not too much” (Nicole, generation X).

- “It had a little baby grand piano in there. Not that I play piano, but that just tells me that it’s a different clientele that would go there” (Sue, baby boomer).

As with their use of images during browsing, participants used images during deliberation to make quality inferences.

- “It just seems cleanly put together. They have the double beds and nice carpeting and bedspreads. And sometimes, you look at pictures, and you can tell the quality is just not really there” (Alyssa, millennial).
- “The one I ended up on felt really modern and stylish, and it felt like they put a lot of thought into design, which I like. For me, that modern look I associate with being clean. And one thing that really drew me to it is they had the duvets. So I love the white duvet. It’s like the most attractive thing to me in a hotel because you know that they wash and bleach it every time, and they change it every time” (Lydia, millennial).
- “Outdated-looking hotels are a turn-off. When I think of outdated I think of musty smell, worn carpet” (Teri, generation X).

Alyssa’s comments represent another indication that participants were indeed using inferences gained from images as part of their choice process, even when the stated importance of the “look” of a hotel was low or, as in Alyssa’s case, not considered to be important at all.

The number of images also seemed to play into participants’ impression of hotel quality. According to one participant:

- “So I looked at these pictures and obviously some hotels don’t have that many pictures. There may be four or five. If you have like 80 pictures, all right it lets me know you’re confident in what you have to serve or what you offer. This is a standard that we—when

you go to this hotel, you will see this photo because this is what it looks like. This is what it's supposed to look like.” (Matt, millennial).

Again, we observed some interplay between image and brand, with images sometimes acting as a confirmatory signal that participants would get the experience they expected from a brand, and other times deemed unnecessary owing to participants' familiarity with the brand. For example:

- “I guess maybe familiarity would be one [reason to look at photos] to make sure that it is—it looks like—what I've seen in the past with that brand” (Teri, generation X).
- “This time I didn't look [at photos] because it was a brand that I am pretty comfortable knowing what to expect there. If it's a brand or a place, or something that I'm not as familiar with, I tend to look more deeply—like what does the room itself look like? What does the lobby look like? The breakfast area?” (Janet, generation X).
- “I was familiar with the hotels, because of my past experience. That I knew what to expect, so I didn't look any further. The [brand name] is a [brand name]. They're just always the same” (Leah, baby boomer).

### **Amenity information**

As can be expected, when similarly-priced properties had different levels of amenities, participants gravitated toward those properties that offered more amenities for the price.

Complimentary amenities, particularly complimentary breakfast, parking, and Internet access, were particularly valued by participants, and their availability was weighed against price. For example:

- “Since now this I know has a pool, and I know it’s like a relatively good price, I’d choose this one over that one. Because I know that one doesn’t have a pool and it’s the same price, so the pool is an extra now” (Frank, millennial).
- “If I’m looking at two hotels, and otherwise they are so close in comparison that I really don’t feel strongly about one over the other, if one has a free breakfast and the other doesn’t I’m going go with the one with the breakfast” (Janet, generation X).
- “I wanted breakfast. Breakfast was not included so that was a no no. Yeah, that was a no no” (Sue, baby boomer).
- “It has to have free Wi-Fi. If I’m hitting my limit of \$125, I’m already paying more than what I feel I should be paying anyway that it irritates me to think now that places are charging for the Wi-Fi access” (Joseph, baby boomer).

The price conscious consumer is also balancing accommodation costs against other vacation costs— complimentary amenities mean that more budget is “freed up” for other purchases. One participant explained this as follows:

- “And usually now like if I’m going on a trip this is how much I have. So if I’m flying I’ve got to put this much aside for airfare. If I’m staying in a hotel, I’ve got to put that much aside for that. And depending where I’m going, like if I’m going to Disney, well I better make sure I have my spending money. Breakfast is included, okay, so that’s a little bit out of my eating. : : : So I budgeted three grand for it, so I have a good bit of spending money now. You know, maybe I could buy a piece of jewelry” (Tina, generation X).

### **Consumer reviews and ratings**

As might be expected, reviews provide participants with a gauge of what a hotel experience will be like. Participants' indicated that they look for insights from reviews on the intangibles, primarily cleanliness and service, which cannot be derived directly from other information sources (see Table 5 for representative comments). Equally, participants look to see how other consumers felt during their experience. For example:

- “The reviews are the biggest things. Now you can look and see a picture—but if they say that this place stunk or there’s a bar and the noise level is high, I’m not staying there” (Kris, generation X).
- “[I want to know that] it’s comfortable and clean. That people had good experiences generally. I like to know that it felt safe” (Lydia, millennial).
- “I just figure if somebody’s been there and they know—If somebody else made a mistake I don’t need to make it” (Karen, generation X).

Based on participant’s comments, it seems that a few bad reviews do not seem to disqualify a hotel from the consideration set; rather, it is the overall pattern of reviews that is important, as illustrated in the following participant comment:

- “If there’s a couple of bad reviews and lots of good reviews I’m not going to just cut that place out, no. But if you start seeing a pattern. Um-hum. Yeah, yeah” (Kris, generation X).

It was apparent from some participants’ comments that they used reviews to assess the kind of experience they could expect for a given price. Some participants indicated that, for them, the combination of the right price and positive reviews signals a good buy. For example: “But this was a really good price, I thought, for the location, and the reviews were fabulous. And I saw those right away; I mean everybody said it was great” (Tina, generation X). On the other

hand, reflective of a concern that price may signal poor quality, one participant spoke to her use of reviews to weigh the risk of opting for a lower-priced hotel: “So you always kind of frame it: is it worth the risk? Do we want to go for something low priced? And you’re trying to figure out from the reviews whether it’s going to be a horrendous experience or an okay one” (Alyssa, millennial).

We also observed an interplay of review content with ratings and price. Some participants indicated that they use ratings as a “shortcut” to assess the quality of the experience, particularly when the ratings are high, only delving into reviews when they like the hotel’s price but its ratings are low. For example:

- “I want the higher rating, but I’m not going to go in and look at why people are rating it that high. But, if the price is really good, and it’s gotten a poor rating, I will glance at a few and say well, what are the comments? And it’s cleanliness, the staff, or something like that; I’ll go, you know, I’m not going to spend that much time with the staff. So I don’t care really—if it’s a really good price and rooms are available—You’ll take your chances” (Joseph, baby boomer).
- “Here, I’m looking at the 2.6 out of 5. That concerns me because usually, if it’s really bad, there’s a reason for it. So here, I’m kind of just checking out some of the reviews. And everybody is going to have something negative to say, so you kind of just got to sort through. If everybody’s review is like don’t ever stay here, you know that—usually gets my attention by if it’s half and half : : : ” (Alyssa, millennial).
- “A 4.6 is a pretty good review—if it was 3.5 then you’d go investigate” (Kate, generation X).

These comments about how consumers consider reviews during their search demonstrate why reviews are not viewed as important to some participants and also shed light into a disconnect between some participants' stated importance of reviews in hotel choice and the number of review fixations actually observed. For example, Kate rated reviews as being very important to her but had an average fixation score for reviews of 3.67 per hotel, which was just below the average number of review fixations for all participants. Brand name also appeared to influence the extent to which participants fixated on reviews. A number of participants indicated that they did not read reviews for certain brands because they had prior, positive brand experience. For example:

- "I think I had a good sense of what their [hotel brand] hotels tend to be like. So I don't think that if I did check in there I would be surprised when I got there. I think I would read the reviews more closely for a local place than a chain because my experience, at least in these [brand name], have been pretty similar across the board. And they tend to be pretty standard" (Lydia, millennial).
- "If I book a bed and breakfast, I would look at reviews, because again, it's the difference between I know the brands, I know what to expect. When it's a bed and breakfast, I don't know, so I want to find out kind of what are other people saying about this location, this site, if the keeper is friendly, you know? Is it clean?" (Leah, baby boomer).

However, prior negative experiences with a brand and doubts about brand consistency led to an increased propensity to read reviews. For example:

- "[Brand name] was always something I really trusted. But then I stayed in that one bad one in Savannah, Georgia. So, now even though I trust them and I'd give them the first option, I want to see what people are saying" (Tina, generation X).

- “I have stayed with [brand name] but I still look at reviews to make sure that there isn’t one property that doesn’t have its act together—or maybe there’s construction going on in the area or its noisy or something.
- Some sort of current event that I need to keep on top of” (Peter, generation X).

During eye tracking, we observed that participants did not fixate on many reviews (mean, 4). When asked about this, there was a general consensus that reading only a few reviews gives the participants a sufficient feel for the experience. For example:

- “So I was just kind of reading reviews and getting the basic gist of—you know because most of the reviews are pretty repetitive as to what people liked and didn’t. So if you read just like a few of those you can get a gauge” (Jackie, generation X).
- “I read it a little bit, but the majority of them were good reviews. So I thought that would be good” (Kelly, millennial).
- “I have sort of a Google approach to reviews. If you don’t show up on the first page, it doesn’t matter. It could be 1,000 reviews, but I’ll only read the first 10. For whatever reason, I think that would give me a pretty good snapshot. Occasionally, I’ll click through just to make sure I’m not getting fooled, like the next page doesn’t say horrible, horrible, horrible. That’s rare; usually I’ll go to the first page” (Peter, generation X).
- Few participants fixated on reviewer profiles during deliberation. Those that did indicated that they did so to determine the usefulness of their comments. For example:
  - “I am trying to see similarities [to the reviewer]—it’s doesn’t seem like we’d be friends” (Lauren, millennial, on why she disregarded a review).
  - “I try to at least casually glance at the pictures and get a perception of what kind of picture they have for their own thing. So is it them, or is it their dog, or is it a fish, or

something like that. So I can get a sense of who they are, what they look like, do they look like fun people. : : : So if it's a couple in front of a sunset, as this one is right here, we would do something like that. So that's like—if it's a wine glass, absolutely : : : but if it's a family with eight little kids or something like that, that's good to know, but we're kid free. So it's not our issue" (Thomas, generation X).

Finally, the strong influence of images was observed when reviews for a hotel were positive, but the photos were not sufficiently appealing to lead to purchase. When explaining why she did not chose a particular hotel, one participant commented: "The one that I went to next, it got good reviews, but it didn't seem as attractive. And the interior, it didn't seem very modern" (Lydia, millennial).

### **Conclusions and Implications**

Although lodging firms' RM strategies largely focus on price, consumers rely on many other sources of information in addition to price when they make their purchase decisions. In fact, the quality inferences associated with a lower price can eliminate a hotel from the consumer's consideration set. From this research, it is clear that value perceptions are the key driver of hotel choice and are a function of inputs from multiple information sources, with consumers making a broad range of inferences based on the FGC and UGC that they see. Some of these inferences may be spurious, but nonetheless appear to be influential.

Consumers use different information to form these inferences at each stage of the search process. FGC is the most important information source during browsing primarily because very limited UGC (other than aggregate consumer ratings) is available to consumers in initial search results on most travel search websites. However, the way that FGC is conveyed in those results

appears to be very influential, particularly the image selected to represent the property. In fact, image appears to be one information source that plays an important role during both stages of the choice process, although the interplay between images and other information sources seems to influence images' power. For example, an attractive image can render a higher price as more attractive, although images may play a lesser role in the choice process when consumers have prior positive brand experience. Both FGC and UGC appear to play a role in hotel choice during deliberation, although again an interplay among available information sources was observed. Consumers used images of the property, user reviews, and descriptions of the hotels' amenities and services to compare the offering price with the perceived value and expected quality of the experience, but we observed substantial variation in how respondents weighed each piece of information when making their eventual choice.

The findings of this exploratory study underscore the complexity of pricing for RM. Revenue managers must consider many more factors beyond price sensitivity or competitors' pricing strategies when establishing the price of a given offering. For example, a "good" price may not be sufficient to offset a poor website photo accompanying the hotel's listing in search results, and should a hotel be included in a buyer's consideration set, unflattering information from other sources may counteract an attractive price.

The findings of this study also highlight the benefits of mixed methods research. The qualitative data from the RTA interview process gave meaning to the quantitative fixation data from eye tracking and uncovered a complex interplay between price and nonprice information that would not have been apparent from the quantitative data alone. Additionally, the fixation data revealed that stated importance was not always reflected in participants' behavior. This finding provides support for the notion that actual behavior can be different from that represented

by conscious responses to explicit probing, highlighting the dangers of taking action based on consumers' stated preferences alone. Furthermore, the qualitative data from the RTA interviews also provided some guidance on why there may be a disconnect between actual behavior (i.e., fixation behavior) and stated importance, in general or on a given occasion.

Although this study suggests that FGC and UGC play significant and complex roles during the online hotel search process, what remains to be explored are the precise elements of each type of information that are most influential in creating inferences that affect the purchase decision. For example, many participants indicated that images of the hotel exterior played a role in consumers' perceptions of value for price, but from the work summarized here, there is as yet insufficient evidence to draw any conclusions about how a hotel firm might photograph or indeed design its properties to maximize appeal and perceived value. Noone and McGuire's (2013) findings that review valence played a key role in consumers' decisions during search were echoed here; the results of the RTA interviews in this study clearly show that there is a much more complex interplay between reviews and other types of UGC and FGC that consumers consider when choosing a hotel. The number and pattern of the reviews may be as important as or more important than what a given review says, and the consumers studied in this research appear to be comparing review content to what they see for themselves in the images posted online, their knowledge of the brand, and the price being offered for a given hotel experience.

This study has limitations that preclude drawing conclusions regarding the behaviors or inferences of any particular group of consumers during online hotel search. Because of the qualitative nature of the study, the sample size was small as is typical of eye-tracking studies that incorporate RTA interviews (Glaholt and Reingold 2011, Glöckner and Herbold 2011). Consequently, it was not the intent, nor is it possible, to draw conclusions from this study about

how a particular age group or gender makes inferences from online content during a hotel search. In addition, the purchase occasion used in this methodology was limited to a short, leisure-oriented domestic travel occasion to provide a consistent context for the online search and subsequent analysis of the qualitative responses. It is quite possible that different types of purchase occasions (e.g., business travel, international travel, and/or a longer duration of travel) may drive different approaches to the use of FGC and UGC in hotel choice. Last, the methodology used in this study required us to limit the participants' searches to a single session, whereas some sources suggest that online search takes place over multiple sessions before a purchase decision is made (Expedia Media Solutions 2013). It is possible that consumers use FGC and UGC differently when conducting multisession searches.

Clearly much more research is needed to explore how each of the information sources available to the consumer online is considered for particular travel circumstances, destinations, and markets (e.g., does the number of alternatives available in a given market impact consumer choice?); what demographic or psychographic factors (e.g., age, sex, income), if any, influence the weighting of this information in each circumstance; and how firms might best respond in terms of the types and formatting of information they make available online to encourage consideration and purchase. It will also be important for researchers to examine how consumers balance price and nonprice information when using a third-party booking site compared with their behaviors on hotel company websites, or how the source of the information influences the inferences that consumers make during online hotel choice. The exploratory study we present here is a starting point for what we hope will be a rich body of work serving revenue managers and hotel marketers alike.

### References

- Aribarg A, Foutz NZ (2009) Category-based screening in choice of complementary products. *J. Marketing Res.* 46(4):518–530.
- Atalay AS, Bodur HO, Rasolofoarison D (2012) Shining in the center: Central gaze cascade effect on product choice. *J. Consumer Res.* 39(4):848–866.
- Ball LJ, Eger N, Stevens R, Dodd J (2006) Applying the PEEP method in usability testing. *Interfaces* 67 (Summer):15–19.
- Basuroy S, Chatterjee S, Ravid SA (2003) How critical are critical reviews? The box office effects of film critics, star power, and budgets. *J. Marketing* 67(4):103–117.
- Bettman JR (1979) Memory factors in consumer choice: A review. *J. Marketing* 43(2):37–53.
- Bettman JR, Johnson EJ, Payne JW (1990) A componential analysis of cognitive effort in choice. *Organ. Behav. Human Decision Processes* 45(1):111–139.
- Bian J, Liu C (2011) Relation between brand equity and purchase intention in hotel industry. *Internat. J. Services Standards* 7(1):18–34.
- Chevalier JA, Mayzlin D (2006) The effect of word of mouth on sales: Online book reviews. *J. Marketing Res.* 43(3):345–354.
- Chiang CF, Jang SS (2007) The effects of perceived price and brand image on value and purchase intention: Leisure travelers' attitudes toward online hotel booking. *J. Hospitality Leisure Marketing* 15(3):49–69.
- Choi S, Mattila AS (2004) Hotel revenue management and its impact on customers' perceptions of fairness. *J. Revenue Pricing Management* 2(4):303–314.

- Cross RG, Higbie JA, Cross DQ (2009) Revenue management's renaissance: A rebirth of the art and science of profitable revenue generation. *Cornell Hospitality Quart.* 50(1):56–81.
- Dhar R, Wertenbroch K (2000) Consumer choice between hedonic and utilitarian goods. *J. Marketing Res.* 37(1):60–71.
- Dodds WB, Monroe KB, Grewal D (1991) Effects of price, brand, and store information on buyers' product evaluations. *J. Marketing Res.* 28(3):307–319.
- Eliashberg J, Shugan SM (1997) Film critics: Influencers or predictors? *J. Marketing* 61(2):68–78.
- Expedia Media Solutions (2013) The traveler's path to purchase: Understanding the relationship between online travel agencies and destination marketing organizations. Accessed August 1, 2013, <http://www.lechotouristique.com/mediatheque/7/7/0/000028077.pdf>.
- Gensch DH (1987) A two stage disaggregate attribute choice model. *Marketing Sci.* 6(3):223–231.
- Glaholt MG, Reingold EM (2011) Eye movement monitoring as a process tracing methodology in decision making research. *J. Neuroscience, Psych. Econom.* 4(2):125–146.
- Glöckner A, Herbold A-K (2011) An eye-tracking study on information processing in risky decisions: Evidence for compensatory strategies based on automatic processes. *J. Behavioral Decision Making* 24(1):71–98.
- Gruen TW, Osmonbekov T, Czaplewski AJ (2006) eWOM: The impact of customer-to-customer online know-how exchange on customer value and loyalty. *J. Bus. Res.* 59(4):449–456.

- Jones P, Chen MM (2011) Factors determining hotel selection: Online behaviour by leisure travellers. *Tourism Hospitality Res.* 11(1):83–95.
- Kim D, Perdue RR (2013) The effects of cognitive, affective, and sensory attributes on hotel choice. *Internat. J. Hospitality Management* 35(December):246–257.
- Kimes SE, Wirtz J (2003) When does revenue management become acceptable? *J. Service Res.* 7(2):125–135.
- Moe WW (2006) An empirical two-stage choice model with varying decision rules applied to Internet clickstream data. *J. Marketing Res.* 43(4):680–692.
- Müller B, Kocher B, Crettaz A (2013) The effects of visual rejuvenation through brand logos. *J. Bus. Res.* 66(1):82–88.
- Noone BM, Mattila AS (2009) Hotel revenue management and the Internet: The effect of price presentation strategies on customers' willingness to book. *Internat. J. Hospitality Management* 28(2):272–279.
- Noone BM, McGuire KA (2013) Pricing in a social world: The influence of non-price information on hotel choice. *J. Revenue Pricing Management* 12:385–401.
- Noone BM, McGuire KA (2014) Effects of price and user-generated content on consumers' pre-purchase evaluations of variably-priced services. *J. Hospitality Tourism Res.* 38(4):562–581.
- Noone BM, Robson SKA (2014) Using eye tracking to obtain a deeper understanding of what drives online hotel choice. *Cornell Hospitality Rep.* 14(18):6–16.

- Noone BM, McGuire K, Rohlf K (2011) Social media meets revenue management: Opportunities, issues and unanswered questions. *J. Revenue Pricing Management* 10(4):293–305.
- Pan B, Zhang L, Law R (2013) The complex matter of online hotel choice. *Cornell Hospitality Quart.* 54(1):74–83.
- Park DH, Kim S (2008) The effects of consumer knowledge on message processing of electronic word-of-mouth via online consumer reviews. *Electronic Commerce Res. Appl.* 7(4):399–410.
- Park DH, Lee J, Han I (2007) The effect of on-line consumer reviews on consumer purchasing intention: The moderating role of involvement. *Internat. J. Electronic Commerce* 11(4):125–148.
- Robson SKA, Noone B (2014) Show me what you see, tell me what you think: Using eye tracking for hospitality research. *Cornell Hospitality Rep.* 14(17):6–12.
- Russo JE (1978) Eye fixations can save the world: A critical evaluation and a comparison between eye fixations and other information processing methodologies. *Adv. Consumer Res.* 5(1):561–570.
- Shocker AD, Ben-Akiva M, Boccara B, Nedungadi P (1991) Consideration set influences on consumer decision-making and choice: Issues, models and suggestions. *Marketing Lett.* 2(3):181–197.
- Weber RP (1990) *Basic Content Analysis*, 2nd ed. (Sage, Newbury Park, CA).

- Wedel M, Pieters R (2008) A review of eye-tracking research in marketing. *Rev. Marketing Res.* 4:123–147.
- Wirtz J, Kimes SE (2007) The moderating role of familiarity in fairness perceptions of revenue management pricing. *J. Service Res.* 9(3):229–240.
- Woo JJ, Chang-Hoan C, Hyuck Joon K (2008) The role of affect and cognition in consumer evaluations of corporate visual identity: Perspectives from the United States and Korea. *J. Brand Management* 15(6):382–398.
- Wright P, Barbour F (1977) Phased decision strategies: Sequels to initial screening. Starr M, Zeleny M, eds. *Multiple Criteria Decision Making: TIMS Studies in the Management Science* (North-Holland Publishing Company, Amsterdam), 91–109.
- Ye Q, Law R, Gu B (2009) The impact of online user reviews on hotel room sales. *Internat. J. Hospitality Management* 28(1):180–182.

**Table 1.** Participant Profiles

Age group	Participant	Gender	# of hotel reservations <sup>a</sup>	# of hotel stays <sup>a</sup>	Average rate paid per night (\$)	Brands typically frequented	Member of a hotel loyalty program
Millennial (18–32)	Lauren	F	1–2	3–5	150–199	No	No
	Kelly	F	1–2	1–2	50–99	Yes	No
	Timothy	M	1–2	1–2	100–149	No	No
	Alyssa	F	1–2	1–2	50–99	No	No
	Kat	F	1–2	1–2	Less than 50	No	No
	Lydia	F	3–5	3–5	100–149	Yes	No
	Jay	M	1–2	3–5	100–149	Yes	Yes
	Matt	M	1–2	1–2	50–99	No	No
	Alexandra	F	1–2	3–5	100–149	Yes	No
	Taylor	M	1–2	1–2	100–149	Yes	No
	Isaac	M	3–5	1–2	300 or more	Yes	Yes
	Frank	M	1–2	1–2	50–99	No	No
	Generation X (33–48)	Patty	F	1–2	3–5	150–199	No
Kate		F	3–5	3–5	100–149	Yes	Yes
Nicole		F	1–2	1–2	100–149	No	No
Karen		F	3–5	3–5	150–199	Yes	Yes
Tina		F	1–2	1–2	100–149	Yes	Yes
Jackie		F	3–5	3–5	150–199	Yes	Yes
Kris		F	1–2	1–2	100–149	No	No
Deb		F	1–2	1–2	100–149	No	Yes
Joanie		F	3–5	3–5	100–149	Yes	Yes
Peter		M	1–2	1–2	150–199	No	Yes
Teri		F	1–2	1–2	100–149	Yes	Yes
Janet		F	3–5	3–5	100–149	Yes	No
Thomas		M	1–2	3–5	150–199	No	Yes
Baby boomer (49–68)	Jim	M	1–2	1–2	100–149	Yes	Yes
	Sue	F	1–2	6–10	150–199	No	Yes
	Joseph	M	3–5	1–2	100–149	No	No
	Leah	F	1–2	3–5	150–199	Yes	Yes
	Lance	M	1–2	3–5	100–149	Yes	Yes
	Mike	M	3–5	3–5	100–149	Yes	Yes
	David	M	1–2	1–2	50–99	No	Yes

<sup>a</sup>In the last six months.

**Table 2.** Average Numbers of Fixations by Information Type During the Browsing Phase

	Average # of fixations per hotel (browse-only hotels)	Average # of fixations per hotel (consideration set)
Name	1.26	4.31
Price	1.10	3.13
Image	0.73	2.50
Ratings	0.42	1.62
Location	0.33	1.42
Offer	0.29	1.12
Description	0.18	1.02
Star	0.20	0.77
# reviews	0.09	0.56
Summary review text	0.06	0.24
Map	0.06	0.15
Rank	0.02	0.05

**Table 3.** Average Numbers of Fixations by Information Type During the Deliberation Phase

Information type	Average # of fixations per hotel	Information type	Average # of fixations per hotel
Image	11.10	# reviews	0.87
Description	8.08	Map	0.84
Price	3.93	User image	0.83
Review text	3.83	Location	0.72
Ratings	3.21	Reviewer profile	0.20
Offer	2.45	Star	0.17
Name	1.38	Rank	0.11

**Table 4.** Sample Comments Regarding Key Aspects of Exterior Shots

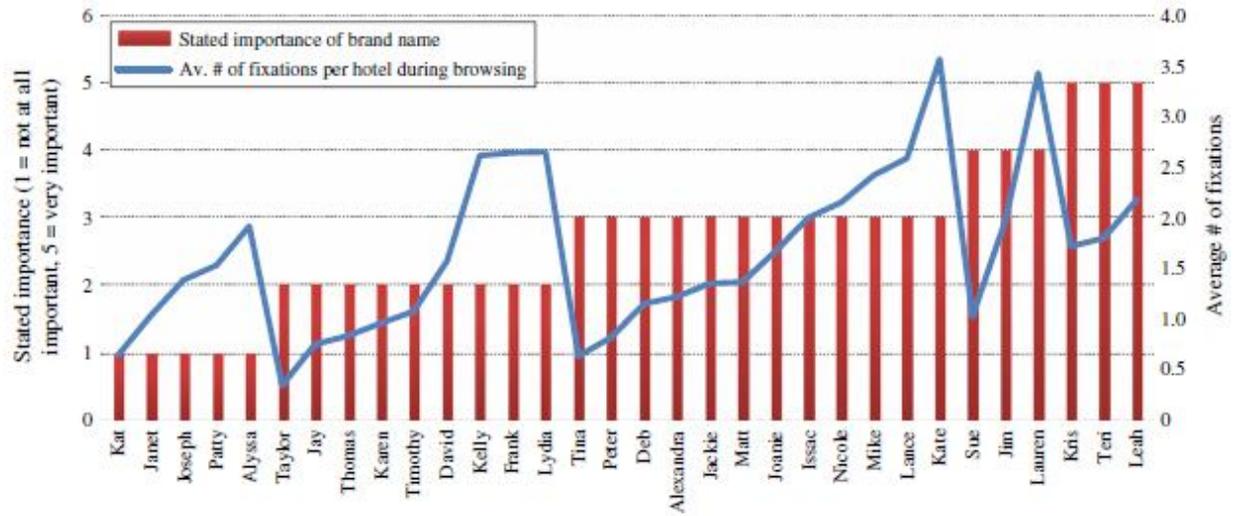
---

Lighting	<ul style="list-style-type: none"> <li>• “Yeah, so that was a good marketing technique there. Nice little picture at night” (Leah, baby boomer).</li> <li>• “That picture just caught my eye, I think because it is dark and it [the hotel] was lit up so it just seemed prominent—like almost made a statement. The other one—it was the white building and it just blended right in—just plain” (Alexandra, millennial).</li> </ul>
Architecture	<ul style="list-style-type: none"> <li>• “And I want it to look different. I don’t want it to look like every single hotel that I’ve ever seen” (Lydia, millennial).</li> <li>• “It’s just not doing it for me. I’m looking for <i>not</i> cookie-cutter” (Leah, baby boomer).</li> <li>• “One of them I was interested in because it looked like it was an old building and I like old buildings” (Sue, baby boomer).</li> <li>• “If it looked too much of a big chain hotel, that dissuaded me, whereas if it was more of a smaller corner property that looked a little more intimate, it looked like less of a big noisy chain, then I selected that one” (Peter, generation X).</li> </ul>
Surrounding environment	<ul style="list-style-type: none"> <li>• “It depends on the area. If it’s New York City and there’s—it looks dirty, or there’s just not much around, or there’s a lot of graffiti that would turn me off. Here was the trees—I liked the trees. The one I picked has a lot of greenery. That one was very concrete. I shied away from that” (Karen, generation X).</li> <li>• “The other hotel that drove my eye—it wasn’t just a balcony overlooking a swimming pool. But there were all these plants. And there was like this very lush garden in that shot as well. So there was something that made it interesting—it stood out because it had an interesting shot. But if you looked at the others, you would see often times corner buildings, or often times just boring entrances, or the room shot. And it doesn’t do anything” (Joseph, baby boomer).</li> </ul>

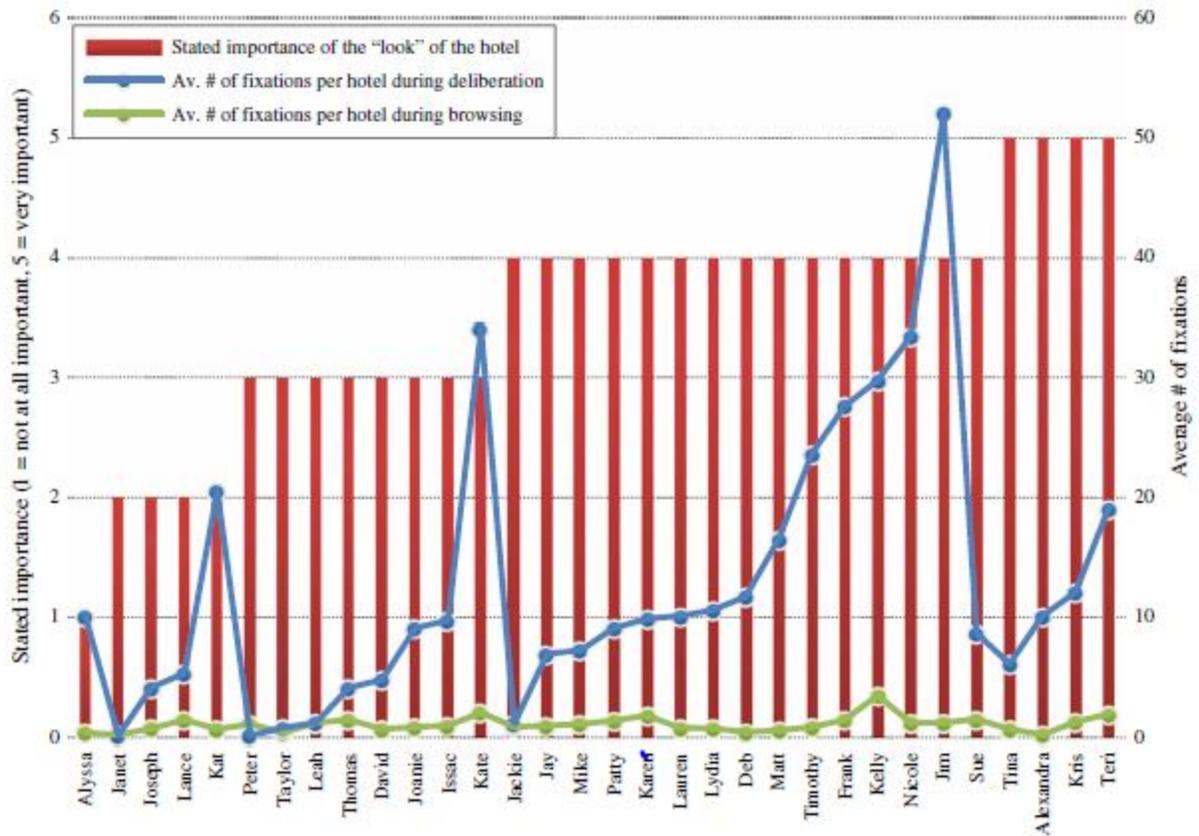
---

**Table 5.** Sample Comments Regarding What Participants Look for in Consumer Reviews

- 
- “And I want to really see if they were having major problems, for example, problems with Wi-Fi, how the staff were” (Mike, baby boomer).
  - “Clean and quiet. Friendly staff. Things like the free breakfast. If they say it was wonderful, they had a lot of choices. People were constantly there resupplying it, as opposed to—we’ve been at some hotels where it’s like yes they offer you a free breakfast, but unless you are there at the moment that it starts you get a three day old dry nasty bagel. So typically just the things that other people say about—primarily—I mean, I keep coming back to cleanliness, which I never realized it was that big of an issue to me, but apparently it is. Maybe I’m just kind of germ phobic today or something” (Janet, generation X).
  - “Bed bugs. If I see bed bugs, that will turn me off. After that, cleanliness and noise. Those would probably be my big three” (Peter, generation X).
  - “I look to see that the hotel is comfortable and clean. That people had good experiences generally. I read about—somebody was talking about a drink that they had that was like beer mixed with I think like bloody Mary mix or something. And I thought it was cool that they have a drink there. They must have a bar nearby. . . . I like to know that it felt safe and comfortable. I like places that don’t have those kinds of thin comforters. I like the ones that have duvets that you can tell that they were washed every time. So I look for that. I look to see what the bed was like. We don’t spend a whole lot of time in hotels when we travel. It’s mostly just a place to go and sleep. And so I want to make sure that that’s comfortable” (Lydia, millennial).
-



**Figure 1.** Self-Reported Importance of Brand Name vs. Fixations on Hotel Name



**Figure 2.** Self-Reported Importance of Hotel “Look” vs. Fixations on Images

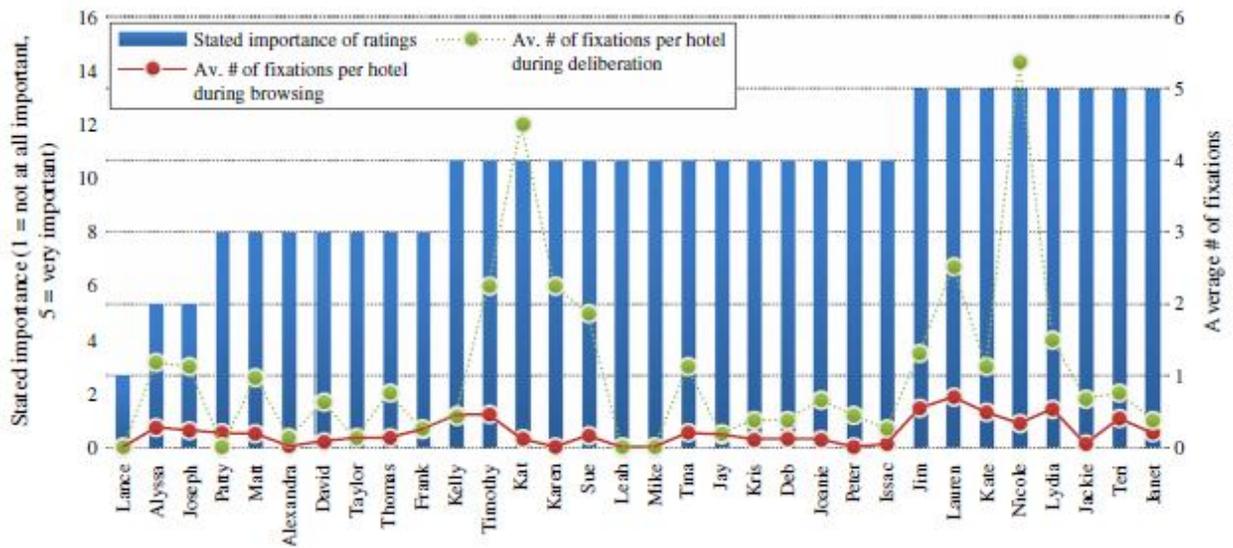
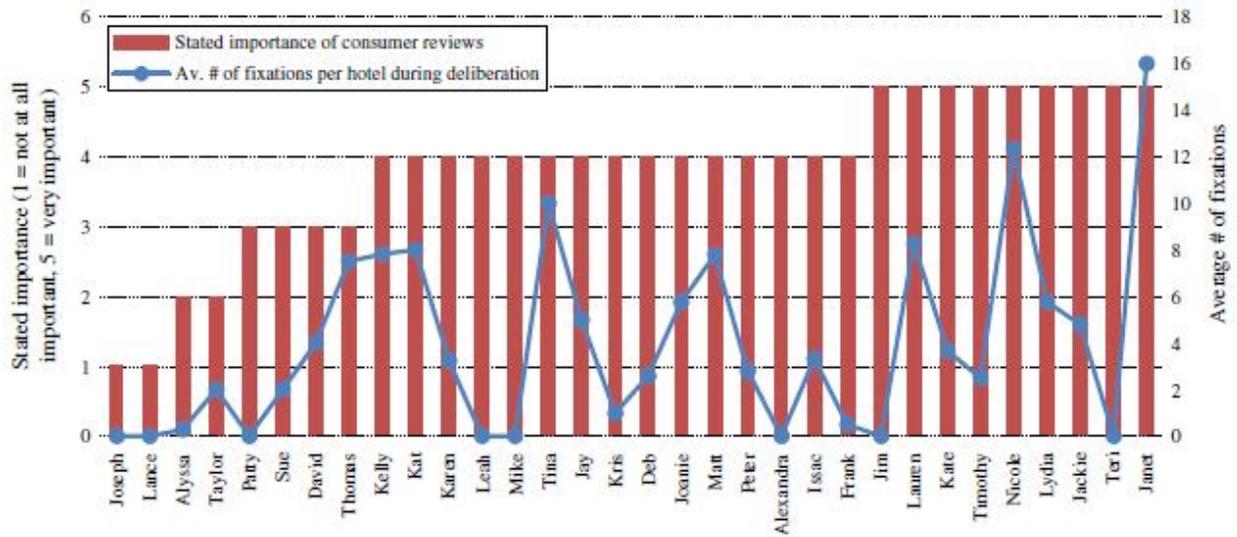


Figure 3. Self-Reported Importance of Aggregate Consumer Ratings vs. Fixations on Ratings



**Figure 4.** Self-Reported Importance of Consumer Reviews vs. Fixations on Reviews