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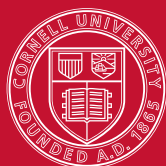


The Billboard Effect: Online Travel Agent Impact on Non-OTA Reservation Volume

Cornell Hospitality Report

Vol. 9, No. 16, October 2009

by Chris K. Anderson, Ph.D.



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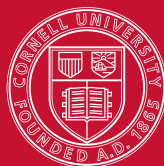
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The Billboard Effect:

Online Travel Agent Impact on Non-OTA Reservation Volume

by Chris K. Anderson

ABOUT THE AUTHOR



Chris Anderson, Ph.D., is an assistant professor at the Cornell School of Hotel Administration. Formerly on faculty at the Ivey School of Business in London, Ontario, his main research focus is on revenue management and service pricing. He actively works with numerous industry types in the application and development of RM, having worked with a variety of hotels, airlines, rental car, and tour companies as well as numerous consumer packaged goods and financial services firms. He serves on the editorial board of the *Journal of Revenue and Pricing Management* and is the regional editor for the *International Journal of Revenue Management*.

This study would not have happened without the partnership of Expedia and JHM Hotels. The author would like to thank Brian Ferguson and Allen Chang of Expedia.com for agreeing to the study, as well as controlling the hotel displays during the course of the experiment. The author also thanks D.J. Rama of JHM Hotels and all his staff at the different properties for facilitating data collection.

EXECUTIVE SUMMARY

Hotels that are listed on third-party distributors' websites, commonly known as online travel agents (OTA), gain a reservation benefit in addition to direct sales. That benefit, often called the billboard effect, involves a boost in reservations through the hotel's own distribution channels (including its website), due to the hotel's being listed on the OTA website. This report provides a quantitative assessment of the incremental reservations through non-OTA distribution channels received as a result of being listed on an OTA site. To quantify the billboard effect, this pseudo experiment examined the effects for certain properties operated by JHM Hotels that are listed on Expedia.com. The study found that when the hotels were listed on Expedia, they saw an increase in reservations from their own distribution channels (that is, not through Expedia). The theory behind this phenomenon is that the would-be guest gains information about the hotel from its OTA listing, but then books the room through a channel controlled by the hotel or its chain family. The study estimates the incremental reservations from listing on Expedia (not including the reservations actually made at Expedia) at 7.5 to 26 percent for the four properties in this study.

The Billboard Effect:

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As online travel agent (OTA) sales increased during the early '00s, hotel properties made efforts to encourage customers to book through their brand specific websites or call centers in an effort to control sales costs and maintain customer contact. One of the longstanding positions of most OTAs has been the need to participate on the OTA to create visibility, as much as to generate OTA reservation volume. This report summarizes an experiment conducted with Expedia and JHM Hotels in an effort to assess this need for visibility. I use the term the “billboard effect” as a generalization of the visibility a service firm attains via participating in (providing inventory to) OTAs. This is the same principle as billboards located on sides of buildings or along highways for the purpose of creating brand awareness. Online travel agents perform a similar duty for service firms, as many travelers visit the OTAs in the early stages of their travel search. The billboard effect is the marketing and advertising benefits hotels receive by being listed in a search on an OTA, such as Expedia.com or Priceline.com. Online travel agents have a larger reach to consumers, because would-be customers use these third-party websites to research a hotels’ location, brand, rates, and service experience.

In PhoCusWright's *Consumer Travel Trend*, 39 percent of online travelers cited OTAs as their primary shopping method in 2008. OTAs and hotel properties also have different focuses. The OTAs receive revenues from mass unconverted lookers, while hotel properties receive revenues from loyal and frequent guests.¹ Here we summarize our efforts to look into the effect Expedia.com has on reservations that are not made directly through Expedia.

Expedia.Com

Expedia.com is the largest online travel agent and is a part of Expedia, Inc. Through Expedia consumers can book airline tickets, hotels, car rentals, cruises, and vacation packages. Expedia.com also aides consumers in researching, planning, and purchasing travel services. Each month it receives 19,266,000 individual visitors.

¹ Douglas Quinby and Carroll Rheem. "PhoCusWright FYI: Suppliers vs. OTAs: An Uneasy Equilibrium," Online Travel Industry Research & Travel Reports | Tourism Market Segmentation Research from PhoCusWright. 23 May 2009; www.phocuswright.com/library/fyi/566.

JHM Hotels

JHM Hotels has 35 properties, in Atlanta, Charleston (South Carolina), Miami, Orlando, and (soon) Washington, D.C., as well as a luxury property in India. It operates both independent hotels and franchised brands, including Hilton, Hyatt, Marriott, and Starwood.²

Measuring the Billboard Effect

In an effort to estimate the impact on non-Expedia reservation volume by listing on Expedia, I conducted the following pseudo experiment, starting in early October 2008 ending in December 2008. The experiment involved four JHM Hotels—one independent hotel and three branded properties.

During the three-month period, the properties were cycled on and off Expedia.com from seven to eleven days per cycle. That is, they were displayed on Expedia for seven to eleven days and then not displayed for a similar time. When Expedia displayed the properties, they appeared on the top

² For more details on JHM visit www.jhmhotels.com.

EXHIBIT 1**Average reservations per treatment and percent increase with OTA**

Property	Average Daily Reservations		Percentage Increase
	Display ON	Display OFF	
Branded Hotel 1	39.4	36.6	7.5%
Branded Hotel 2	54.8	49.7	9.1%
Branded Hotel 3	39.1	34.2	14.1%
Independent Hotel	28.2	22.3	26%

of the first page. When properties were cycled off Expedia.com, the properties could not be found anywhere on Expedia.com, even if one searched specifically for one of those four hotels. At the completion of the study each property had spent a total of forty days displayed on Expedia and forty days not displayed. At completion the company printed out and recorded all reservations in each hotel’s property management system that occurred during the experiment. I tabulated all reservations made during this period for any stay day, and not just prospective stays for days during the study period. Exhibit 1 summarizes the key findings of the experiment. In an effort to ensure confidentiality I have disguised the names of the four properties involved in the study. While I realize that this may limit some of the clarity in exposition, I feel it doesn’t interfere with the overall implications.

Reservation boost. Exhibit 1 compares the average number of daily reservation from off-cycle periods to daily reservations during on-cycle periods. Since the goal was to measure the impact of the OTA display on non-OTA reservation volume (rather than the total impact of the OTA listing), I eliminated the actual Expedia.com bookings. This means that the reservations shown in Exhibit 1 are those that were made through channels other than Expedia during the time of the test. In short, listing on Expedia created a lift of between 7.5 percent and 26 percent for these non-Expedia reservations.

Branded Hotels 1 and 2 are located in the same city and record an average percentage increase of 8.3 percent. Hotel 1 saw an increase of 2.8 average daily reservations when displayed on Expedia.com (a 7.5-percent rise), and Hotel 2 enjoyed an increase of 5.1 average daily reservations when displayed on Expedia—an increase of 9.1 percent. Branded Hotel 3 had an increase of 4.9 average daily reservations—or,

14.1 percent—when displayed on Expedia.com, and the Independent Hotel had an increase of 5.9 average daily reservations when displayed on Expedia.com, which amounts to a 26-percent increase in reservations.

One likely reason for that the large variance in incremental reservations from listing on Expedia (a range of 18.5 percentage points in reservation lift) involves interference from the hotels’ chain connections. I believe that the variance is a result of the varying cleanliness of the test for the different test properties, with the data for the Independent Hotel being the cleanest. The data for Branded Hotels 1 and 2 are the most subject to interference due to their membership in a chain family of brands. Although those two hotels are the only representative of their respective brands within the particular city, there are other hotels in their chain family within close proximity. If the hotels were part of the Marriott family, for instance, one might be the only Courtyard, but there would exist another Marriott flag (say, Fairfield Inn) nearby. Branded Hotels 1 and 2 in fact have seven other hotels in their franchisor’s brand family within 18 miles of the location studied. A customer looking to stay at this location might also search (on Expedia) for hotels in nearby locations. This search would net the other seven chain-family hotels (even more if a larger area is included). That would-be guest might then visit “Brand.com,” find one of the test properties, and book that experiment property even though it was not listed on Expedia at that moment.

The experiment is a little cleaner at Branded Hotel 3, because it has only three chain-family properties within 20 miles of the JHM hotel in question. As I indicated above, the Independent Hotel’s data are the cleanest of the four properties, because it has no chain family and there is little way to argue that a reservation at the hotel could have been affected by Expedia’s listing when the hotel was not listed there.

EXHIBIT 2**Average daily rate**

Property	Percentage increase in ADR during Expedia listing
Branded Hotel 1	3.9%
Branded Hotel 2	0.8%
Branded Hotel 3	0.3%
Independent Hotel	0.8%

The incremental reservation volumes from the Expedia billboard effect appear to decrease as the data become less clean. Unlike the independent hotel, the branded properties could see bookings that were influenced by Expedia even when they were not displayed, simply because other hotels in their chain family were listed on Expedia. This means that even during the supposed Expedia off phase, Expedia is only partially “off,” and it is probably still affecting reservations at the hotel in question.

ADR boost. In addition to looking at total reservations we can also look at the average daily rates of these incremental reservations. Given that reservations were taken for different arrival dates and different lengths of stay we need to control for these characteristics. Exhibit 2 presents the percentage increase in average daily rate (ADR) while a property is listed on Expedia. The percentage increase is estimated using linear regression and controls for length of stay, days before arrival that the reservation was made, and weekend arrivals. As shown in Exhibit 2, all four hotels recorded slightly higher ADR during their on phase, and Branded Hotel 1 saw a particular ADR lift.

Summary

The data provided by both JHM Hotels and Expedia.com help confirm and quantify the billboard effect, which is the lift in reservations made through channels other than online travel agents that is created by listing on the OTA. My data would indicate that there is a greater billboard effect with independent hotels (given the 26-percent lift in reservations volume for the independent in our study, not including reservations at the OTA). However, this finding of greater benefit to the independent is potentially an artifact of the experimental conditions, because of the effect of chain families on reservations at the branded hotels. As one would expect, with increasing reservation volumes come increasing ADRs.

I should note that the effects measured constitute a conservative estimate, since they do not include the actual OTA reservations nor do they include any potential future business created by attracting the OTA customer. The benefits of being displayed on an online travel website like Expedia.com should not only be measured by the revenues gained by the specific distribution channel, but also the marketing and direct sales benefits the hotel receives through the billboard effect. These benefits should be factored into the costs of reservations at the OTA. For example, a hotel might currently be paying a 15-percent commission for OTA reservations, and the OTA might account for 10 percent of reservation volume, with 60 percent of reservations occurring through direct channels. I estimate the billboard effect at 20 percent. In that scenario, the OTA’s 15-percent commission would really be generating 20 percent of the hotel’s volume. That is, the original 10 percent, plus another 10 percent from the direct channels (calculated as $60 - 60 \div 1.2$). That would result in an effective commission of 7.5 percent, if one spreads the 15 percent paid for the 10 percent direct OTA reservations over the 20 percent of reservations that actually accrued from the OTA. ■

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