

# *Living without OTAs—*

## **A Summary of the Performance Impacts Resulting from the OTA Delisting of Columbus, Georgia**

*by Christopher K. Anderson and Saram Han*

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### **EXECUTIVE SUMMARY**

**A** four-year period during which hotels in Columbus, Georgia, were delisted by online travel agencies—and subsequently relisted—created a natural experiment that allows comparison of hotel performance before, during, and after the delisting period. This report summarizes two already published analyses of the hotels' performance and then extends one of those analytical approaches to develop a more comprehensive picture of revenue outcomes. An initial study compared changes in room-nights sold by Columbus's hotels with those in neighboring Phenix City, Alabama, which undoubtedly absorbed a substantial amount of Columbus's lost OTA business. This study found that the loss of room-nights in Columbus was relatively small during the delisting, and it concluded that occupancy in the city's hotel market roared back once its hotels were relisted. The later analyses present more nuanced picture using indices rather than absolute figures, as well as including the relative effects on revenue per available room (and thus both average daily rate and occupancy). This approach finds that while occupancy did, indeed, flourish, that came at a cost of diminished ADR during the delisting. Moreover, RevPAR did not entirely recover when the hotels were relisted.

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## ABOUT THE AUTHORS

**Chris K. Anderson**, Ph.D., is a professor at the Cornell School of Hotel Administration. Prior to his appointment in 2006, he was on faculty at the Ivey School of Business in London, Ontario Canada. A regular contributor to the CHR Report series, his main research focus is on revenue management and service pricing. He actively works with industry, across 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. Anderson's research has been funded by numerous governmental agencies and industrial partners. 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*. At the School of Hotel Administration, he teaches courses in revenue management and service operations management.



**Saram Han**, MS., is a doctoral student at the Cornell School of Hotel Administration. He received his master's degree in survey methodology from the University of Michigan in Ann Arbor and BBA in tourism management from Kyung Hee University in Korea. His research interests focus on measuring and improving the service operation by analyzing the unstructured data. He is especially interested in how the reviews on the online travel agencies (OTAs) can help measure the intangible service qualities in the hospitality industries.



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## **A Summary of the Performance Impacts Resulting from the OTA Delisting of Columbus, Georgia**

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**T**wo studies recently published in the *Cornell Hospitality Quarterly* summarize a unique natural experiment in which hotels in an entire city were delisted from all online travel agents for more than four years. This occurred when the city of Columbus, Georgia, was victorious in its lawsuit (and subsequent appeal) against several OTAs in which the city alleged improper collection and remittance of accommodation taxes. The Columbus case is one of more than 90-plus cases filed against OTAs for accommodation tax collection. As a result of the lawsuit, all OTAs removed all hotel listings for the city of Columbus from the end of 2008 through 2012. This report summarizes the findings relating to hotel rate and occupancy presented by these two papers, highlights some of the insights, and then provides additional analysis to extend calculations of the effects on the hotels' revenues.

## Study One: Absolute Occupancy and Rate Effects

The first study, by Brumby McLeod and his colleagues, estimates the impact of OTA delisting by looking primarily at demand changes in nearby Phenix City, Alabama (across the river and state line from Columbus).<sup>1</sup> They estimate the effect of the delisting in Columbus by calculating the room-nights that Phenix City itself lost in 2012, when Columbus was relisted at the OTAs. That number was substantial for the relatively small Phenix City market, as it lost about 18,000 room-nights per year when Columbus came back on-line, or just under 15 percent of the occupancy Phenix City might have expected. McLeod and colleagues then extended this post-relisting loss backward, expressing it as the gain to Phenix City during the time that Columbus was delisted. They then estimated both the effects on taxes for the city of Columbus and on the city's hotel revenues.

For the city, they calculated an actual tax gain to the city of Columbus during the delisting period of \$298,000. Although there was a loss of taxes on the missing 18,000 annual room-nights (over 4.3 years of delisting), they calculated that this loss was offset by what they believed would be higher net taxable rates for the hotels. They determined that this tax gain would occur owing to the absence of OTA transactions, meaning that hotels did not have to pay an estimated 20 percent in OTA commissions and resulting a higher net taxable rate. For this, they assumed that 14.9 percent of transactions would otherwise have been taxed at a lower net rate owing to estimated OTA commissions.

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<sup>1</sup> Brumby McLeod, Stephen W. Litvin, Kirk C. Heriot, Andres Jauregui, and Erin Dempsey. Goodbye Columbus: Accommodation Taxes and OTAs, *Cornell Hospitality Quarterly*, Vol 59, No. 1 (February 2018), pp. 61–66 (doi:10.1177/1938965517704369).

The picture is likewise positive for the hotels, for a similar reason. McLeod and colleagues determined that the hotels were, on balance, better off without the OTA transactions. First, based on a city-wide ADR of \$71.60, they estimated the loss of 18,000 annual room-nights over the delisting period at \$5,542,000. This product is calculated as follows: (18k [annual lost rooms] × 4.3 [years delisted] × \$71.60 [average delisting period Columbus ADR].) This substantive loss is more than offset by reductions in OTA commissions of \$9,257,000. That calculation is as follows: (1,009k [annual average number of room-nights sold in the city during delisting] × 4.3 [years delisted] × \$71.60 [average delisting period Columbus ADR] × 14.9% [OTA normal market share] × 20% [average OTA commission]), for a net gain of \$3,715,000.

Based on this study, the result of putting the OTA genie back in the bottle in Columbus, Georgia, appears quite positive—so much so one might ask why the hotels bothered to relist!

This does not quite end the McLeod analysis, although further specific calculations are not possible. McLeod and his colleagues suggested that one possible reason that only 18,000 of the estimated 150,341 annual rooms sold on OTAs prior to delisting (14.9% of 1,009,000) were (apparently) lost to Phenix City is that this market is relatively small. While Phenix City is the next closest market it only has one-seventh of the room supply offered by Columbus (246,000 rooms in Phenix City versus 1,720,000 rooms in Columbus as of 2014). One could speculate that this supply imbalance might mean room-nights during the delisting were lost to other markets as well. The McLeod study also assumes that OTA delisting had no long-term impacts on pricing strategy within the Columbus market, as revenue estimates are solely based on ADRs during the delisted period.

## Hotel performance indices (Columbus/Phenix City)

	RevPAR	ADR	Occupancy
LISTED	1.21	1.22	0.99
DELISTED	1.09	1.07	1.02
RELISTED	1.11	1.01	1.10
LOSS	89.9%	87.6%	102.9%
RECOVERY	91.8%	82.9%	111.1%

### A Deeper Dive Using RevPAR Indices

Working with co-author Saram Han, I published a *CHQ* article that indicated the difficulty of unraveling the true impacts of OTA delisting owing to supply changes, seasonality, and other factors not under control during the experiment.<sup>2</sup> As a result, we proposed the use of indices, or relative performance, versus the use of absolute performance. We used the same data as that analyzed in the McLeod study (including performance in Phenix City), as supplied by STR under an educational agreement known as the STR SHARE Center.<sup>3</sup>

Exhibit 1, reproduced from our *CHQ* research note, summarizes the average performance indices during the following three periods: (1) when all hotels were listed at OTAs, (2) when Columbus hotels were delisted at OTAs, and (3) after Columbus hotels were relisted at OTAs. As did McLeod and his colleagues, Han and I use aggregate market-level data. For example, ADRs are total market revenue divided by total market rooms occupied.

<sup>2</sup> Chris K. Anderson and Saram Han. Living without OTAs—Goodbye Columbus: Putting the Genie Back in the Bottle, *Cornell Hospitality Quarterly*, Vol 59, No. 1 (February 2018), pp. 67–69 (doi: 10.1177/1938965517735907).

<sup>3</sup> STR's SHARE Center makes available a substantial volume of aggregate hotel industry data to colleges and universities by arrangement. See: str.com.

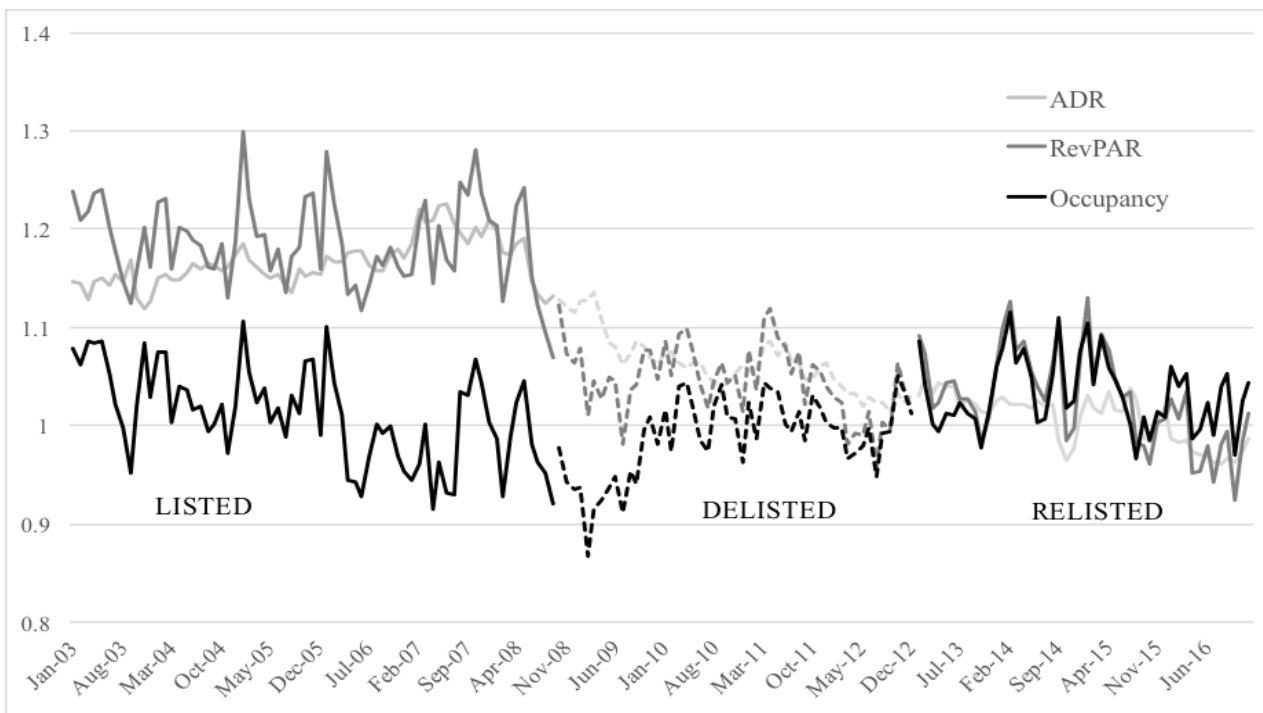
The table also includes ratios of the delisted period (labeled as “loss”) and the relisted periods (i.e., “recovery”) relative to performance prior to delisting. The ratios highlight the degree to which Columbus hotels lost control of their pricing and failed to recover even after relisting (relative to Phenix City), as relisted room rates are still 17.1-percent less than those prior to delisting. The use of relative performance (i.e., ADR in Columbus divided by the average of ADR in Phenix City plus that of Columbus) helps control for seasonality and general economic conditions. Note that we use this calculation of ADR in Columbus divided by the average of the two cities' ADRs (versus simply dividing the ADR in Columbus by the ADR in Phenix City) to avoid the possibility of double counting the losses in Columbus on top of gains in Phenix City.

The table indicates that Columbus's lower rates drove additional room-nights, since the occupancy index during both loss and recovery is greater than 100 percent. At the same time, delisting and relisting diminished Columbus hotels' overall performance, given that RevPAR levels never recovered (as shown by the RevPAR indices during loss and recovery of less than 100 percent).

### Slow Recovery

For the remainder of this report, we extend our initial analysis beyond that published in the *CHQ* research note, both to include a longer recovery period (us-

## Hotel performance indices (Columbus/Phenix City)



ing data through 2016 versus 2014 as in the prior two studies), and to calculate performance measures at the hotel level. This allows us to compare effects across chain scales and further to distinguish outcomes for branded and independent hotels.

Exhibit 2 displays RevPAR, ADR, and occupancy during the same three periods as in the table: before OTA delisting in Columbus (LISTED), during delisting (DELISTED), and after the listings were restored (RELISTED). Similar to the table in Exhibit 1, the figure in Exhibit 2 illustrates that prior to delisting Columbus generated a rate premium over Phenix City, which translated into superior RevPAR performance. Following delisting, Columbus room rates eroded quickly. Although these rate reductions generated modest occupancy gains, the result was dramatically reduced overall performance, as measured by RevPAR during that period. Following relisting, Columbus hotels never recovered their pricing power. We see that ADRs continued to depreciate (relative to Phenix City), even as relisting generated sufficient demand to elevate RevPAR in Columbus (albeit not to pre-delisting levels).

Exhibits 1 and 2 would indicate that Columbus hotels fared poorly during delisting, losing considerably more revenue than would previously have

been represented by the estimated 18,000 lost annual room-nights. In fact, one might argue that the city's hotels lost few, if any room-nights, given the increase in occupancy indices. However, Columbus hotels aggressively reduced prices during the delisting period, resulting in a dramatic decrease in RevPAR (and total revenue). One thing to keep in mind is that revenues reported to STR are net revenues (that is, net of all OTA commissions), meaning that the RevPAR indices during the LISTED and DELISTED periods already have all OTA commission savings (or expenses) built in. Consequently, there is no need to make any assumptions on channel mix or commissions, as was required in the McLeod analysis.

To gain further distance from the possible noise created by OTA listings, pricing, and commissions, we can create a cleaner set of indices by looking at hotels we expect to be the least affected by OTA delisting—namely, lower chain scale branded hotels. In my 2009 analysis of what I termed the billboard effect—or the impact of OTA listings upon non-OTA hotel bookings—I determined that the effect is lesser for branded hotels than for independent hotels.<sup>4</sup> I found that the

<sup>4</sup> See: C.K. Anderson (2009). The Billboard Effect: Online Travel Agent Impact on Non-Ota Reservation Volume. *Cornell Hospitality Report*, Vol. 9, No. 16.

## OTA versus direct consumer behavior

Hotel Sub-Brand	Online Direct Booking Share	OTA Booking Share	Average # OTA visits*
StayBridge Suites	3.9	1.6	9.9
Candlewood Suite	5.9	5.7	6.9
Holiday Inn	80.1	73.2	11.4
Crowne Plaza Hotels	9.0	13.8	13.9
Hotel Indigo	0.6	0	23.7
InterContinental Hotels	0.6	5.7	28.6

\*online direct bookers

effect decreased from 26 percent for independent hotels to as little as 7.5 percent for branded hotels. The reason for this is undoubtedly the breadth of coverage of the “brand.com” websites. We see an example of this strength in a hotel search at Marriott.com. A search for Phenix City, Alabama, returns a display of 11 Marriott-branded hotels—one in Phenix City, six in Columbus, and four in Auburn, Alabama (about 30 miles away). Similarly, a Phenix City search at ChoiceHotels.com yields 12 hotels—two in Phenix City, seven in Columbus, and three in Opelika, Alabama (about 20 miles away). Given this overlap, even if Columbus hotels were delisted at an OTA, their brand counterparts in Phenix City (or other nearby location) may still be listed on the OTA. That could result in a web searcher gaining indirectly exposure to the delisted hotel if their research process involved OTA visits prior to hotel direct booking. This is a realistic scenario, as I wrote in a 2011 paper. At that time, I found that 75 percent of all online direct hotel bookings were preceded by an OTA visit.<sup>5</sup> Exhibit 3 (derived from

<sup>5</sup> See: C.K. Anderson (2011). Search, OTAs, and Online Booking: An Expanded Analysis of the Billboard Effect. *Cornell Hospitality Report*, Vol. 11, No. 8. This number had decreased to 65 percent in 2015. See: C.K. Anderson and S. Han. (2017). The Billboard Effect: Still Alive and Well. *Cornell Hospitality Report*, Vol. 17, No. 11.

details in my 2011 paper) summarizes differences in online behavior by hotel sub-brand for InterContinental Hotels Group (IHG). The hotel sub-brands from IHG in Exhibit 3 are arranged in order of ascending chain scale with StayBridge and Candlewood Suites, for instance, of lower chain scale than InterContinental Hotels. The table summarizes the sub-brand booking share and OTA visitation (average number of visits to OTAs prior to booking direct) by channel. The table indicates two broad themes. First, OTA bookings tend to be tilted towards higher chain scale sub-brands, as the InterContinental brand goes from an online direct share of 0.6 percent to a 10-fold increase of 5.7 percent at OTAs, whereas IHG’s Holiday Inn flag decreased from 80.1 percent to 73.2 percent. In addition, those who book higher chain scale inventory appear to do a lot more shopping, as indicated by the average number of OTA visits prior to an online direct booking. One might infer, then, based on these two earlier papers, that we might expect delisting to have less impact on lower chain scale branded hotels owing to decreased OTA shopping and less OTA focus on these lower chain scale (branded) properties.

Returning to the analysis but keeping in mind the reduced effect of OTAs on branded properties, we see

## Branded hotel performance indices

### Panel A: All Properties

	RevPAR	ADR	Occupancy
LISTED	1.19	1.17	1.01
DELISTED	1.05	1.06	0.99
RELISTED	1.03	1.01	1.03
LOSS	88.3%	91.3%	97.8%
RECOVERY	86.7%	86.4%	102.2%

### Panel B: Branded Midscale

LISTED	1.15	1.09	1.06
DELISTED	1.06	1.09	0.97
RELISTED	1.09	1.1	0.99
LOSS	92.3%	100.1%	91.7%
RECOVERY	95.5%	101.6%	93.5%

### Panel C: Branded Economy

LISTED	0.97	0.96	1.01
DELISTED	0.94	0.94	1.02
RELISTED	0.99	0.92	1.08
LOSS	97.3%	98.2%	100.5%
RECOVERY	103.0%	95.8%	107.2%

that Exhibit 4, like Exhibit 1, displays average performance indices across the three listing periods. However, Exhibit 4 displays average indices across hotels rather than across market indices. Panel A in Exhibit 4 presents average indices for all properties, while Panel B shows average indices for branded midscale hotels and Panel C does the same for branded economy hotels. Comparison of Panel A to Panels B and C indicates that the impacts of delisting are dramatically reduced for branded hotels. Further, this impact is less

for economy properties than for midscale hotels, as indicated by the RevPAR figures. The overall market has recovered to 87 percent of prior RevPAR, while branded midscale hotels have gotten back to 96 percent of their earlier RevPAR. However, branded economy hotels are fully recovered and, in fact, stand at 103 percent of their pre-delisting levels. As a caution, we note that Panel A from Exhibit 4 displays slightly different values than the table in Exhibit 1, because Table 1 uses market-level data, while Exhibit 4 displays



results averaged across hotels. We see that the greater the range in hotel sizes, the greater the potential for differences between the two sets of results.

## Summary

The goal of this report is to provide an extended analysis of the effects on demand and revenue of OTA delisting upon hotel performance in Columbus, Georgia. Because the OTAs delisted all the city's hotels for a time and then relisted them, we are presented the opportunity to analyze the effects of a natural experiment. In one study, McLeod and his colleagues conducted an analysis that found an estimated 18,000 annual room-nights lost in Columbus as a result of delisting. The loss of 18,000 room-nights is based on a broad assumption that all demand lost from Columbus spilled over to Phenix City, which seems to be a conservative approach. Using this estimate, they concluded that, even given this loss of 18,000 room-nights, the city's hotels actually benefited from delisting, based on the calculation that the loss in room-nights is more than offset by OTA commission savings.

Starting with this analysis, Saram Han and I took a different approach and did not make any assumptions about lost room-nights. Instead, we compared relative performance of Columbus hotels to those in Phenix City. Through the use of indices we indicated substantial negative impacts of delisting in Columbus. Hotels dramatically dropped their prices during the delisting period. While they may have gained room-nights, they clearly lost revenue owing to the deep rate cuts. This analysis provides a conservative estimate of a loss of 2.8 percent of revenue during delisting during this period. Note that this estimate already included any gains in commission savings.

This report extends our analysis through the use of hotel specific data (versus market aggregate data). Using this approach, we found that the impacts of delisting were not the same for all hotels. Instead, we found that RevPAR losses declined with decreasing chain scale, and further are lessened for branded hotels.

In the end, Columbus's hotels did relist with the OTAs when given the opportunity. Most saw a subsequent uptick in RevPAR, but some upper scale hotels have yet to regain all the yardage that they lost during the delisting. Thus, it is difficult to conclude that the sequence of events that led to the delisting and relisting was beneficial to the city's hotels. ■

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