



Article Title

Airbnb's effect on hotel sales growth

Citation

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Abstract

Disruption of existing industries by peer-to-peer sharing economy platforms, like Airbnb, has received extensive media attention primarily regarding the regulatory and the social aspects of the sharing economy. In this paper, we examine the substitution and complementary effects of Airbnb supply on hotel sales performance patterns in San Francisco, the birthplace of Airbnb. Our results, based on a mixed-model analysis using a saturated, unstructured covariance matrix, show that overall hotel RevPAR is unrelated to total Airbnb supply. Interestingly however, in certain segments, RevPAR is affected by the average price of Airbnb listings. More importantly, hotel sales performance is impacted by Airbnb customer reviews, which points to nuanced and contextual complementary and substitution effects. We outline suggestions for future research as well as practical implications for hotel firms operating in similar markets where Airbnb has high penetration rates.

Methods

The study estimated a series of mixed models on data collected over 11 occurrences from 101 hotels. In this repeated measure mixed model analysis, the focus was on the trend of change in hotel sales performance over time as Airbnb develops its supply in San Francisco. Furthermore, the research included three dimensions in our exploration of the effects of this innovation on the hotel industry. The study not only investigated the effects of the total inventory (i.e. number of listings) of Airbnb offers on the evolution of hotel performance, but also explored the effects of the price of Airbnb properties, and more importantly the effect of Airbnb users' satisfaction (i.e. Airbnb guest's reviews of the listed property) on hotel sales patterns to estimate the nature of substitution that Airbnb provides in the lodging market.

Results

The effect of Airbnb in terms of volume had a non-significant effect on RevPAR. In other words, we fail to accept the first hypothesis of an effect of the sheer volume of properties listed on the platform on hotel sales in the San Francisco area. These results are in line with a recent report on the Airbnb effect in Boston where – despite tremendous growth in supply of Airbnb due to its flexibility, and a high occupancy rate increase – hotel prices and revenues did not seem to be adversely impacted (Dogru et al., 2017). Similarly, according to a STR study of 13 global markets, Airbnb listings did not affect hotel revenues (Haywood et al., 2017).

However, significant effects were observed for average Airbnb property price, average Airbnb guest satisfaction, and hotel segments. Results show that first, Airbnb property price had a positive effect on hotel RevPar: the higher the price of the rentals posted on the platform, the higher the RevPar of hotels. Second, the model analysis confirmed a negative relationship between hotel RevPAR and the average satisfaction rate of Airbnb guests.

In sum, results support the conclusion for a supplement role of Airbnb in the lodging industry. However, results also indicate that Airbnb's effect is more disruptive than it might appear at first. The price of rentals on the platform influence the demand for hotel rooms, which indicate a disruptive effect. And the guest reviews' score affects the sales of hotels, which points to a substitution effect. In the last steps of the analysis, the study explored whether these relationships vary across segments. The results of the mixed model show a significant interaction between the average Airbnb listing price and hotel segments. In particular, when untangling the interaction, the analysis revealed Airbnb rental prices had an effect on hotels' RevPar in the luxury segment.

Conclusion

The contribution of this paper is threefold. First it examines the effects of the Airbnb phenomenon on hotel sales from a longitudinal standpoint to test for the impact on Airbnb on the patterns of hotel sales performance over time. Second, it offers insights for hotel managers facing the development of this new offer in a highly competitive industry. Finally, our study contributes to the growing research on the effects of disruptive innovators on incumbents.