# Private rooms in the peer-to-peer accommodation: employing unsupervised machine learning to maximize the revenue

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## Abstract

The goal of this study was to identify the combinations of performance determinants that delivered high performance of private rooms offered via peer-to-peer accommodation platform. Based on property level data of Airbnb, the novel application of unsupervised machine learning algorithm was proposed to cluster the private rooms according to their performance defined as yearly revenue. The findings enhance the existing research based on hedonic price theory and serve as indication for current and future peer-to-peer hosts on how to shape their offer in private rooms segment. The results indicate that the highest revenues were achieved by 2-3 people rooms located around the Central Railway Station. However, 4-people rooms or rooms in the properties with at least 2 bathrooms, tend to deliver high revenue, regardless the location. Further, adequate number-of-photos and cancellation policy could offset the location disadvantages and deliver higher revenues in distant vs. central locations.



**Subject Areas:** *Market Analysis and Response, Pricing, Product Management, Service Marketing*

**Track:** Tourism Marketing