

# AirBnB Rental Pricing Guide - Paris, France



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Springboard: Capstone II

# AirBnb

Overview: AirBnb allows people to rent out their homes, apartments, or rooms to the public.

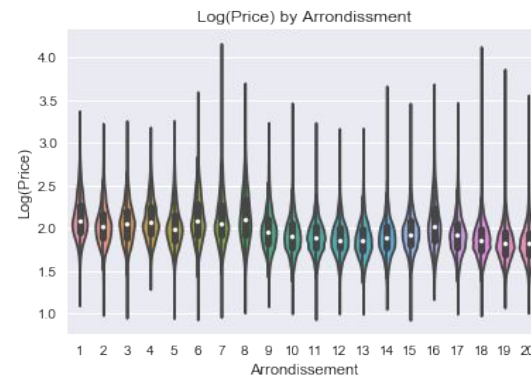
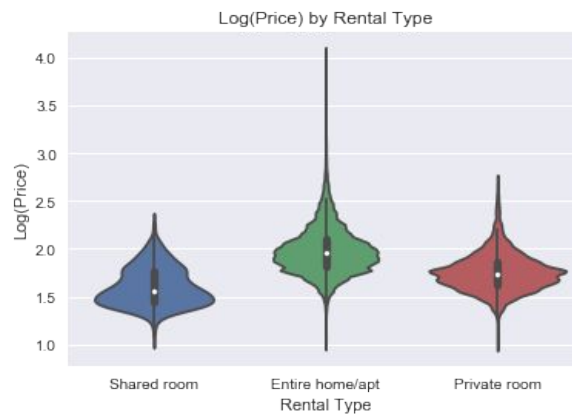
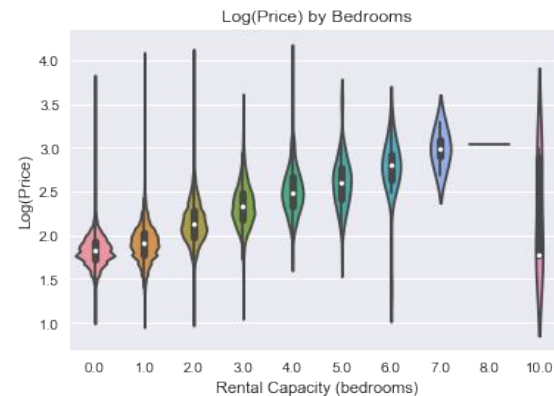
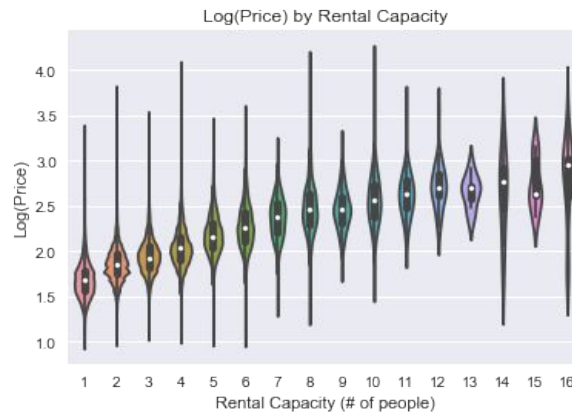
Objective: Help AirBnb hosts in Paris, France figure out how to price their rentals appropriately based on rental features and popularity/growth goals.

Data: we have data on:

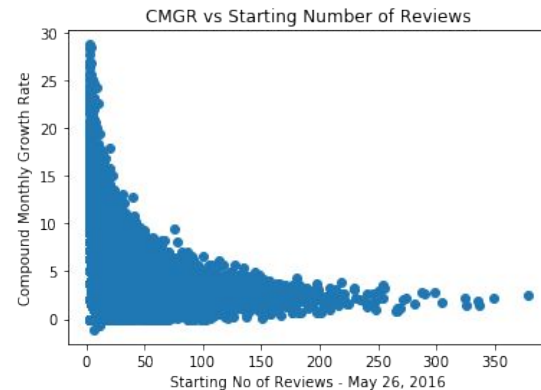
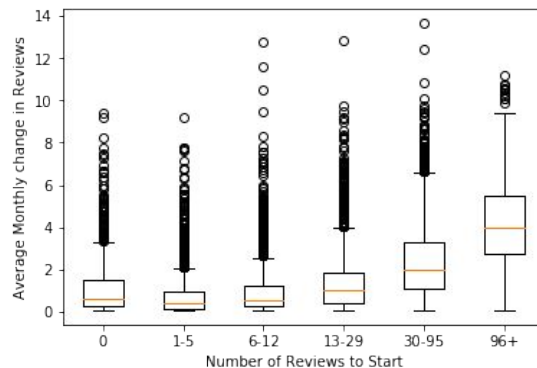
- Rental capacity (# of people and # of bedrooms)
- Rental type (shared room, private room, entire home),
- Location (neighborhood)
- Price per night
- Number of reviews

# Rental features and pricing

- Rental price tends to increase with the number of bedrooms and the number of people that a rental can accommodate
- Rental price tends to be highest in entire homes/apts, followed by private rooms, and finally shared rooms
- Rental price tends to be highest in the inner arrondissements (1-8).



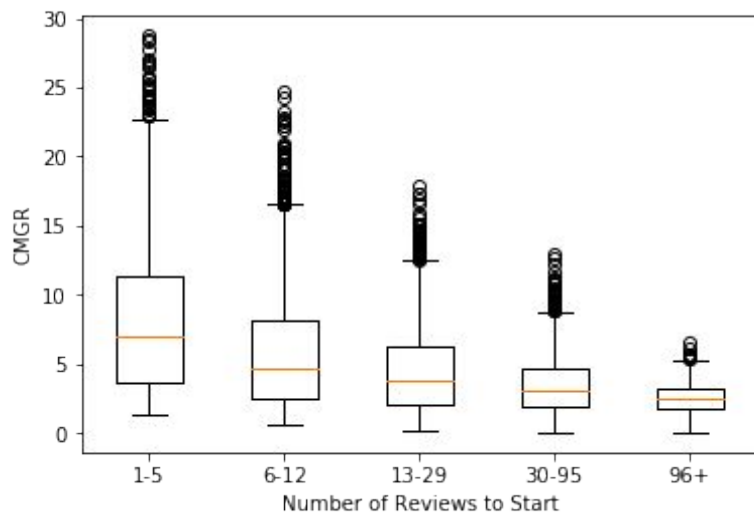
# Rental popularity



- Airbnb estimates 70% of renters review their rental, so reviews can be used as a proxy for rental bookings
- Rentals with a higher number of reviews (more popular rentals) have lower ranges of nightly fees
- Rentals with more reviews tend to get more reviews each month (and by proxy, bookings)
- Rentals with a low number of reviews have a larger range of compound monthly growth rates for reviews (and by proxy, bookings)
- This suggests that there is a 'sweet spot' price for popular rentals at right around \$50-\$100/night

# Linear Models

We build multiple regression models in pairs to see if there are differences between rentals with high compound monthly growth rates and those with low compound monthly growth rates.



- Made groups of rentals based on the number of reviews they started with at the beginning of the series of audits
- Made two regression models for each group, one with rentals with CMGRs in the bottom 50% and the other with CMGRs in the top 50%
- Response variable of log price, input variables of rental capacity, rental type, and arrondissement
- Calculated z-scores between coefficients of the models to find statistically significant differences between pricing with rentals that see high increases in booking rates and those that do not

# Findings/Recommendations

1. Rentals with more reviews tend to gain more reviews every month. Get renters to review your rental.
2. If you have a shared-room rental, try a significant price cut (~\$20 per night) to up your rental CMGR for bookings.
3. To up your rental CMGR for bookings, try decreasing the price your rental a little bit (by about \$2-\$8), especially if you are located in the inner arrondissements (1-8) or arrondissement 16.
4. AirBnb should conduct a more robust study to help make more concrete pricing recommendations based on a more in-depth list of rental features.

# What's Next?

The  $R^2$  of the linear models built in this study were low, and therefore are mainly useful in their comparative rather than predictive power. I recommend scraping more data from the AirBnb site to create a more robust model that considers:

- Amenities: is there wifi, washer/dryer, AC, hot tub, terrace, etc?
- Location: how close/accessible is this rental to major attractions, the metro, the airport, etc?

Incorporating this information might increase the predictive power of this model and allow us to make more concrete pricing recommendations for Parisian hosts.