

European Cities Airbnb Price Analysis

Purpose: Explore how various variables interrelate to shape Airbnb pricing in European cities.

Guiding Questions

What factors most significantly impact Airbnb rental prices in major European cities?

How do variables like location, room type, and host status interact to influence pricing and guest satisfaction?

Hypothesis: In major European cities, Airbnb listings located closer to the city center tend to have higher rental prices than those located further away.

Dataset Overview

Source: Comprehensive dataset of Airbnb listings from various European cities.

Content: Includes key variables such as room type, pricing, host status, guest satisfaction ratings, and geographical location.

Timeframe: Data last updated in February 2023, providing current insights as of December 2023.

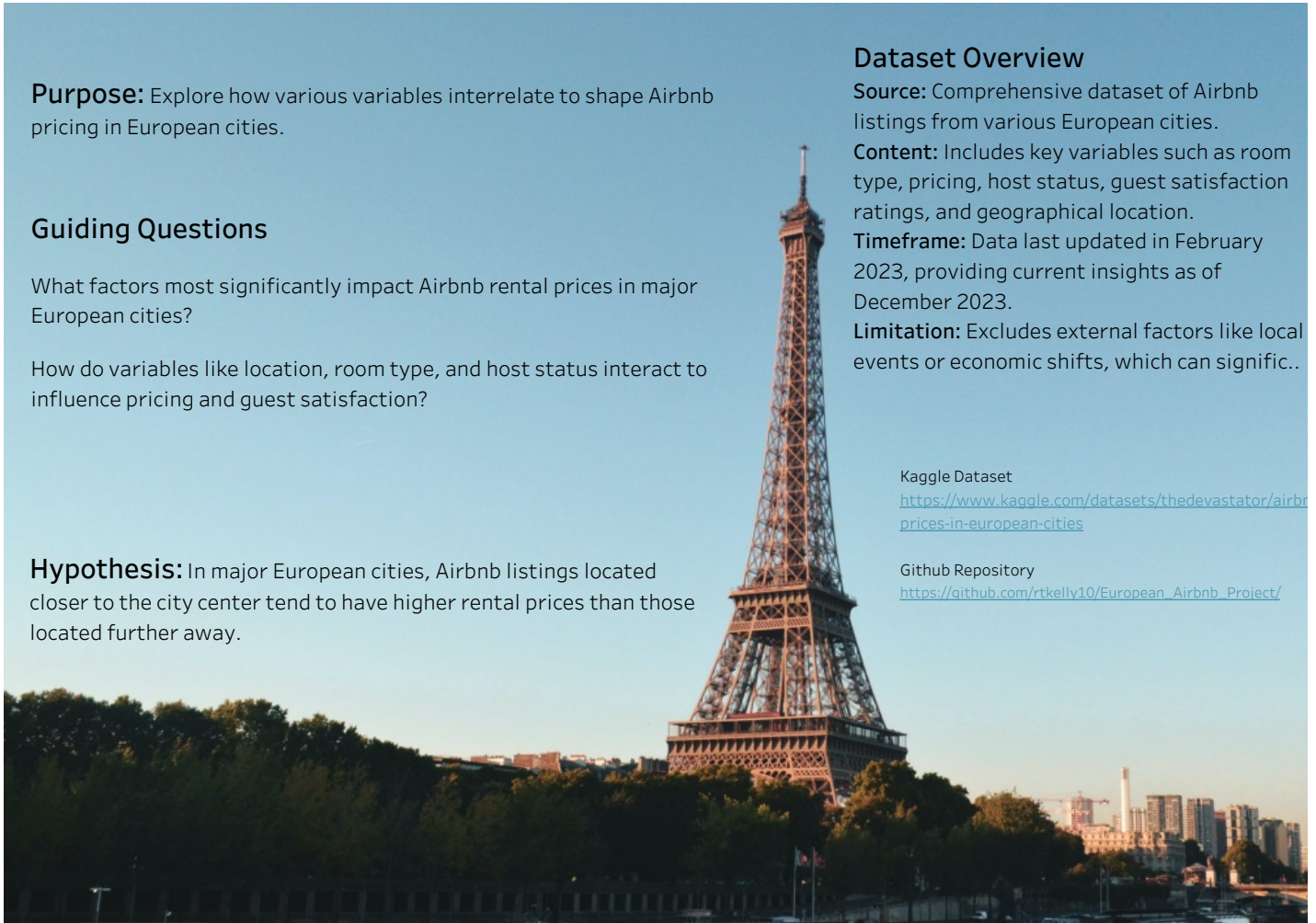
Limitation: Excludes external factors like local events or economic shifts, which can signific..

Kaggle Dataset

<https://www.kaggle.com/datasets/thedevastator/airbnb-prices-in-european-cities>

Github Repository

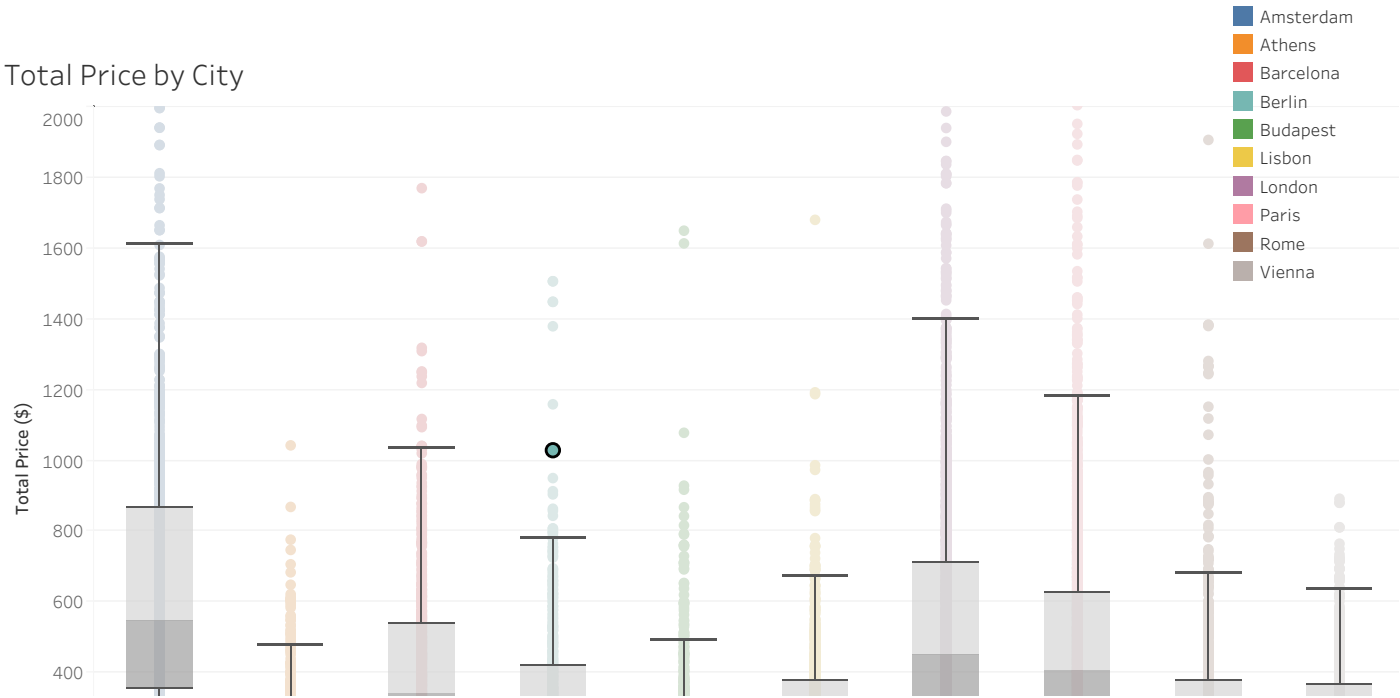
https://github.com/rtkelly10/European_Airbnb_Project/

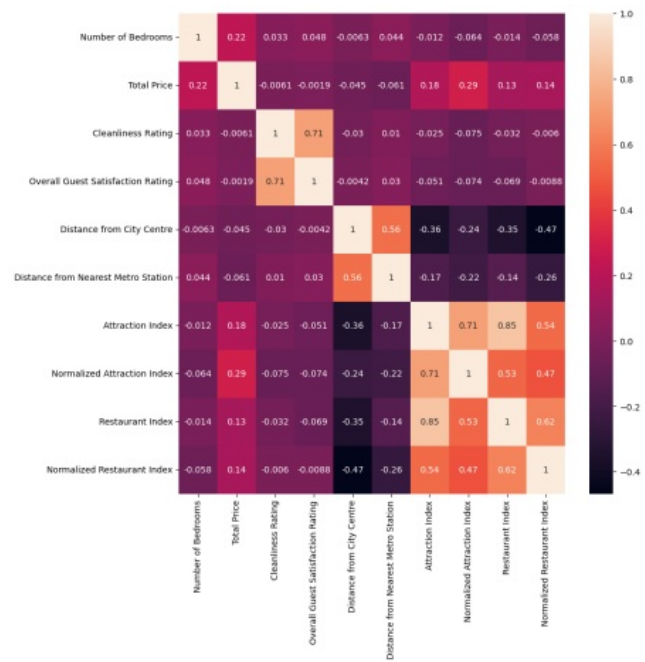


City	Avg. Total Price	Avg. Overall Guest Satisfaction R..	Avg. Cleanliness Rating	Avg. Person Capacity
Amsterdam	573.1	94.5	9.5	2.8
Athens	151.7	95.0	9.6	3.7
Barcelona	293.8	91.1	9.3	2.6
Berlin	244.6	94.3	9.5	2.8
Budapest	176.5	94.6	9.5	3.5
Lisbon	238.2	91.1	9.4	3.3
London	362.5	90.6	9.2	2.8
Paris	392.5	92.0	9.3	3.0
Rome	205.4	93.1	9.5	3.4
Vienna	241.6	93.7	9.5	3.4

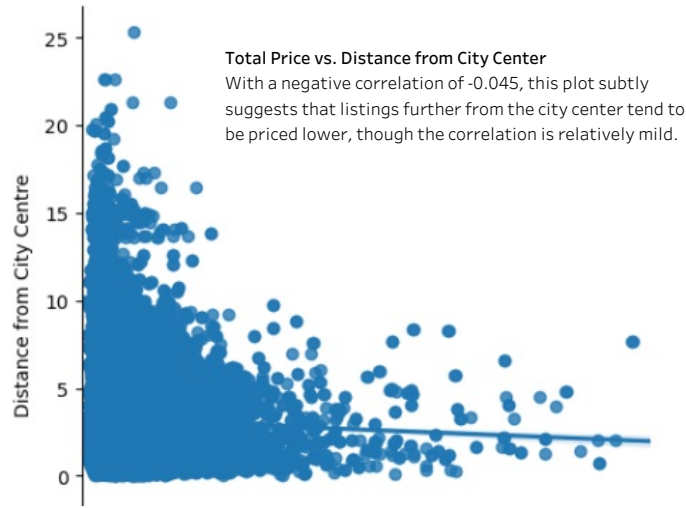
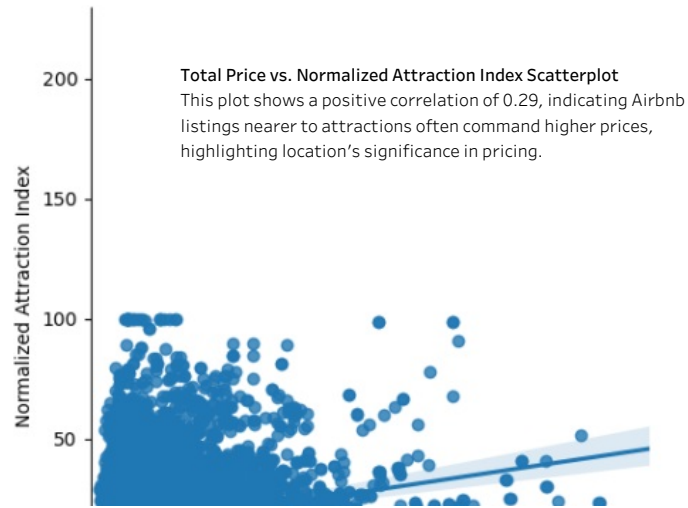
Summary Table: Displays averages of price, overall guest satisfaction, cleanliness rating, and person capacity. This table offers a quick glance at the general trends and typical characteristics of Airbnb listings in our dataset.

Box and Whisker Plot: Represents the distribution of total prices across each European city which identifies median prices, variations, and outliers in each city's Airbnb market.

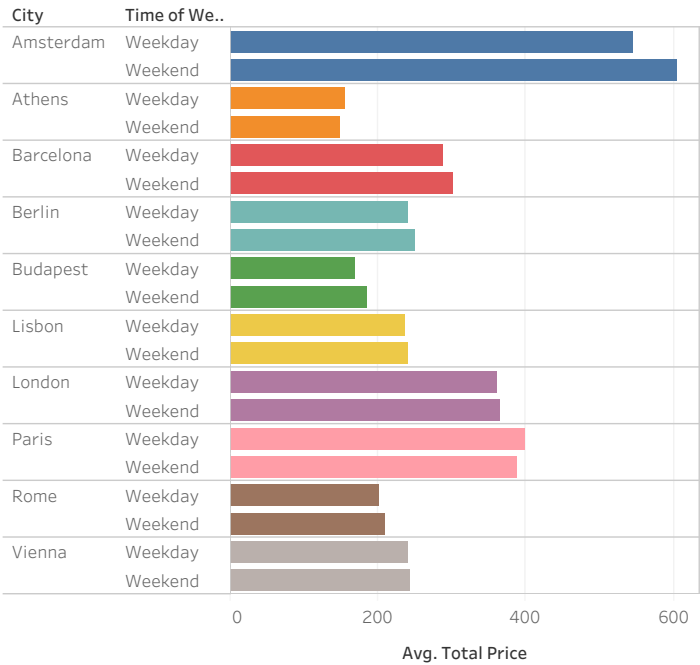




Correlation Heatmap: Presents correlations between various variables. This heatmap is effective for quickly identifying strong relationships, particularly focusing on how different factors correlate with total price.



Average Price by Time of Week

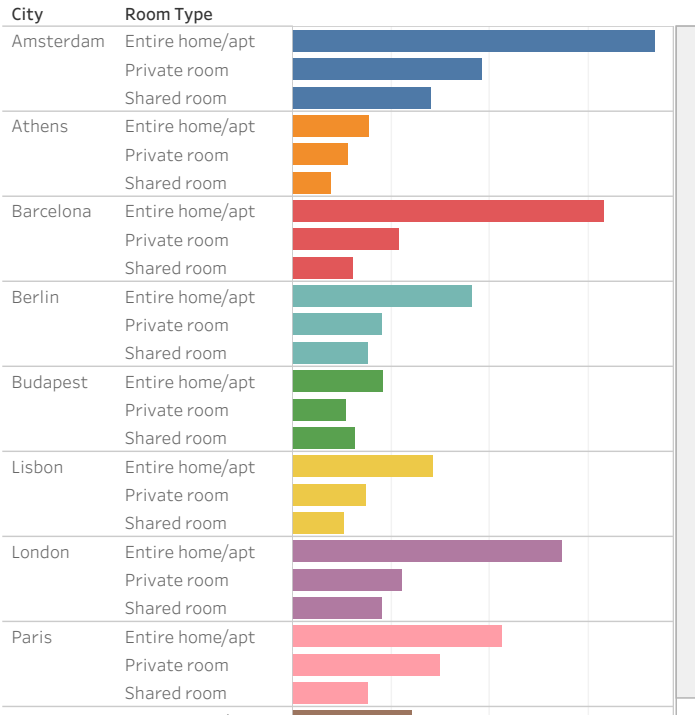


Average Price by City by Time of Week: Compares average prices in cities during weekdays and weekends, highlighting pricing trends.

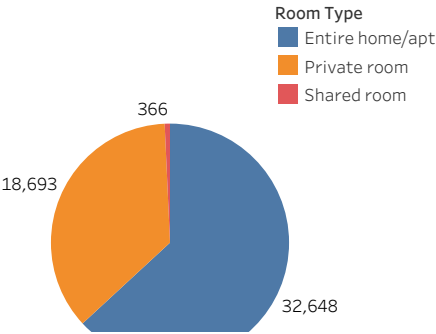
Average Price by City for Room Type: Shows how room types (entire home, private room, shared room) influence average prices in different cities, reflecting market preferences and demands.

Pie Chart of Room Types Available: Illustrates the distribution of room types in the Airbnb market, providing a quick overview of the most common accommodation offerings.

Average Price by Room Type



Room Types Available



Conclusion

In our analysis of Airbnb rental prices in major European cities, we found that location, room type, and time of the week are critical factors. Proximity to city centers and attractions significantly drives up prices, reflecting the high demand for centrally located accommodations. The type of room also plays a crucial role, with entire homes often priced higher than private or shared rooms. Additionally, price fluctuations between weekdays and weekends highlight responsive pricing strategies to demand changes.

Possible Next Steps

- Seasonal Pricing Analysis:** A deeper exploration of seasonal trends could aid hosts in optimizing their rates year-round.
- Deeper Regional Analysis:** Investigate specific cities or regions more deeply to understand local factors influencing pricing and accommodation preferences. This could reveal unique trends or opportunities in individual markets.
- Competitive Analysis with Hotels:** Comparing Airbnb offerings with traditional hotels can provide strategic insights for hosts to position their listings effectively in the market.

Guest Satisfaction by City

