

## Best room finder ~Airbnb~ Dashboard Description

## Case study

COVID-19 pandemic effects and restrictions have been gradually dissipating over the years and more people are looking into traveling. Airbnb Inc. has hired us to make a pilot study on their data of Europe, because they want to find out the latest trends of their rooms in a post-pandemic panorama. They would like the analyst team to explain the data from multiple perspectives: State, Host, Customer; and to provide each an interactive dashboard that can provide information to each of their specific needs.

## Why this is a good problem to solve?

By being able to make such proposals, the users will be able to understand the features of the main cities from the perspective of Airbnb's accommodation options and suggest travel destinations that are suitable for each Airbnb user. Consequently, many people who plan to travel to Europe may start using Airbnb, leading to a high potential for an increase in the number of users.

## Basic understanding of data

Data source: <https://www.kaggle.com/datasets/dipeshkhemani/airbnb-cleaned-europe-dataset>

Data size (rows & columns): 19 column 41714 rows

## Variables Description

ID: Unique identifier. (String)

Price: Price of Airbnb. (Numeric)

Day: If it is weekday or weekend. (String)

Place Type: Type of Airbnb entire apt, private room, shared room. (String)

Person Capacity: The person's capacity for Airbnb. (Numeric)

Bedrooms: Number of bedrooms that have a place. (Numeric)

City: Name of the city. (Geographic)

City Center: Distance related to the center point of the city. (Numeric)

Metro Distance: Distance related to the metro. (Numeric)

Superhost: If the Airbnb host is superhost or not. (Boolean)

Business: If the business has more than 4 offers. (Boolean)

Cleanliness Rating: Level of cleanliness by user experience. (Numeric)

Guest Satisfaction: Service complacency by the guest about the place. (Numeric)

Attraction Index: Measurement of attractiveness of the place. (Numeric)

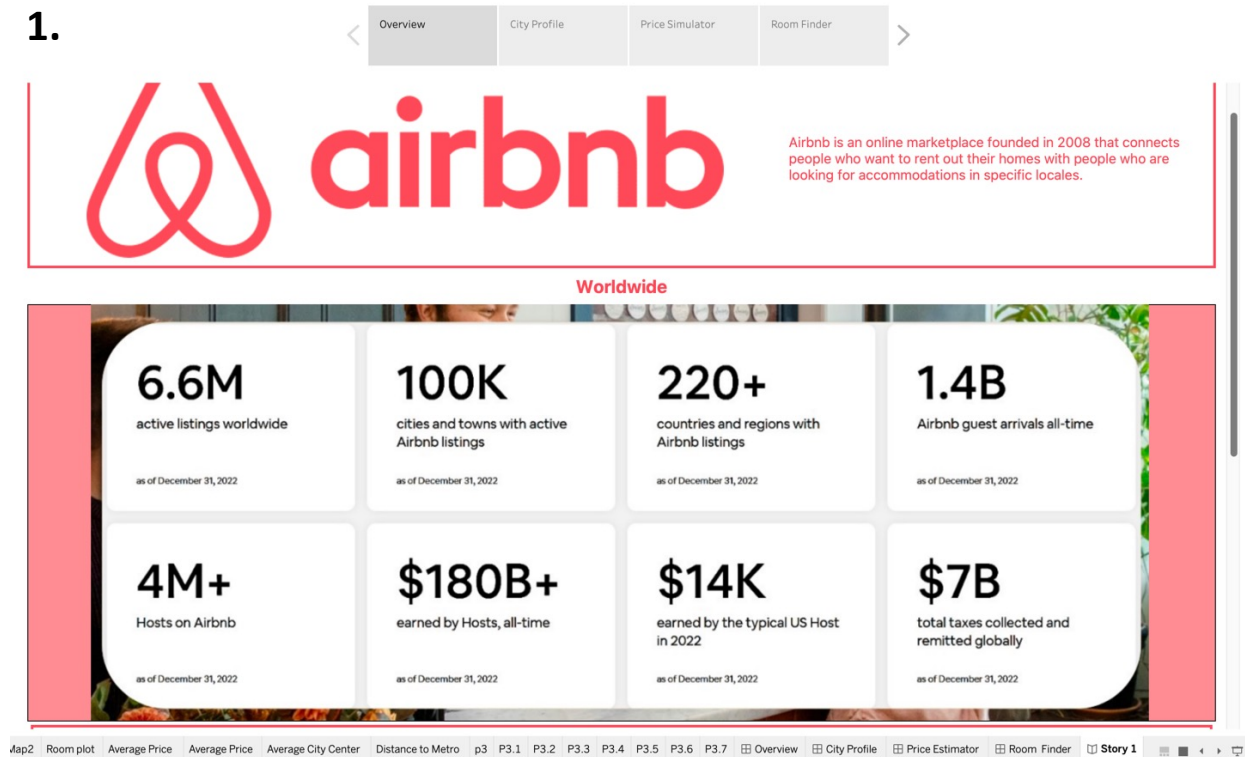
Restaurant Index: Measure that indicates to evaluate the restaurants. (Numeric)

## Dashboard sections

### -Overview

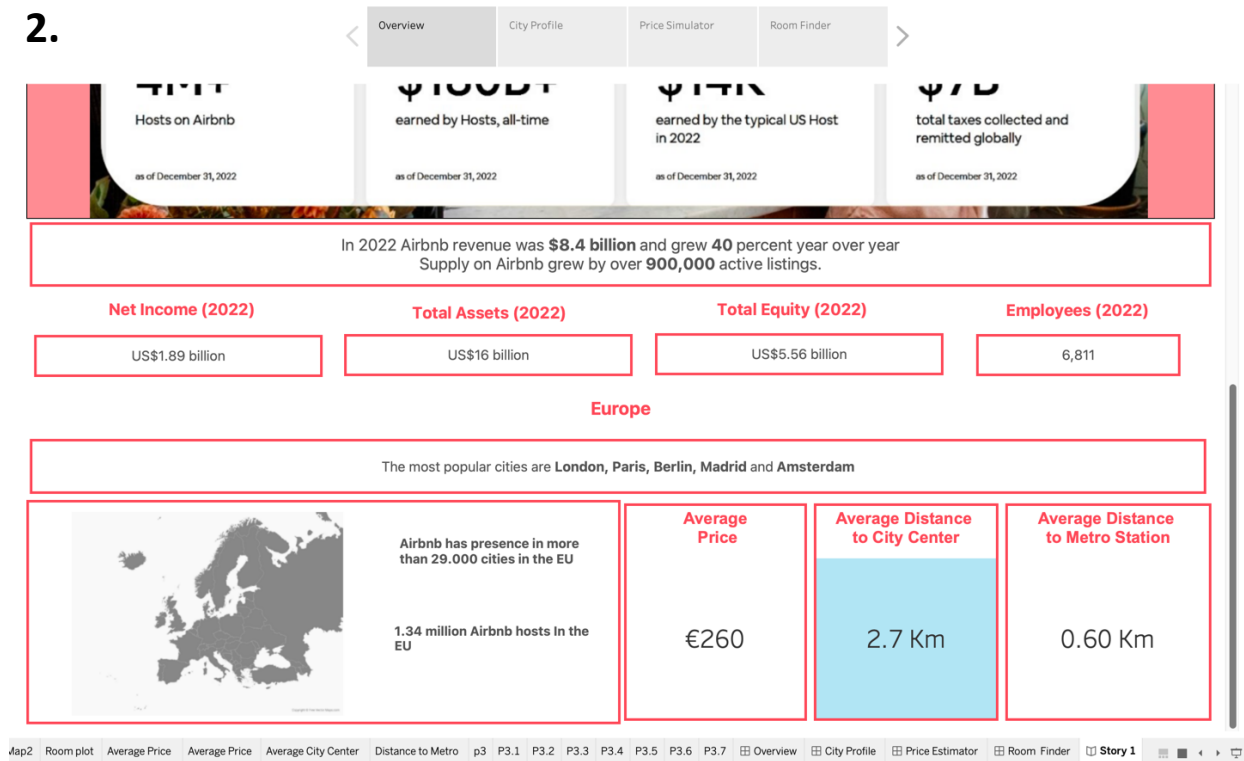
This section contains basic information about the company (Airbnb).

1.



### 1. Basic Company Information (Part1)

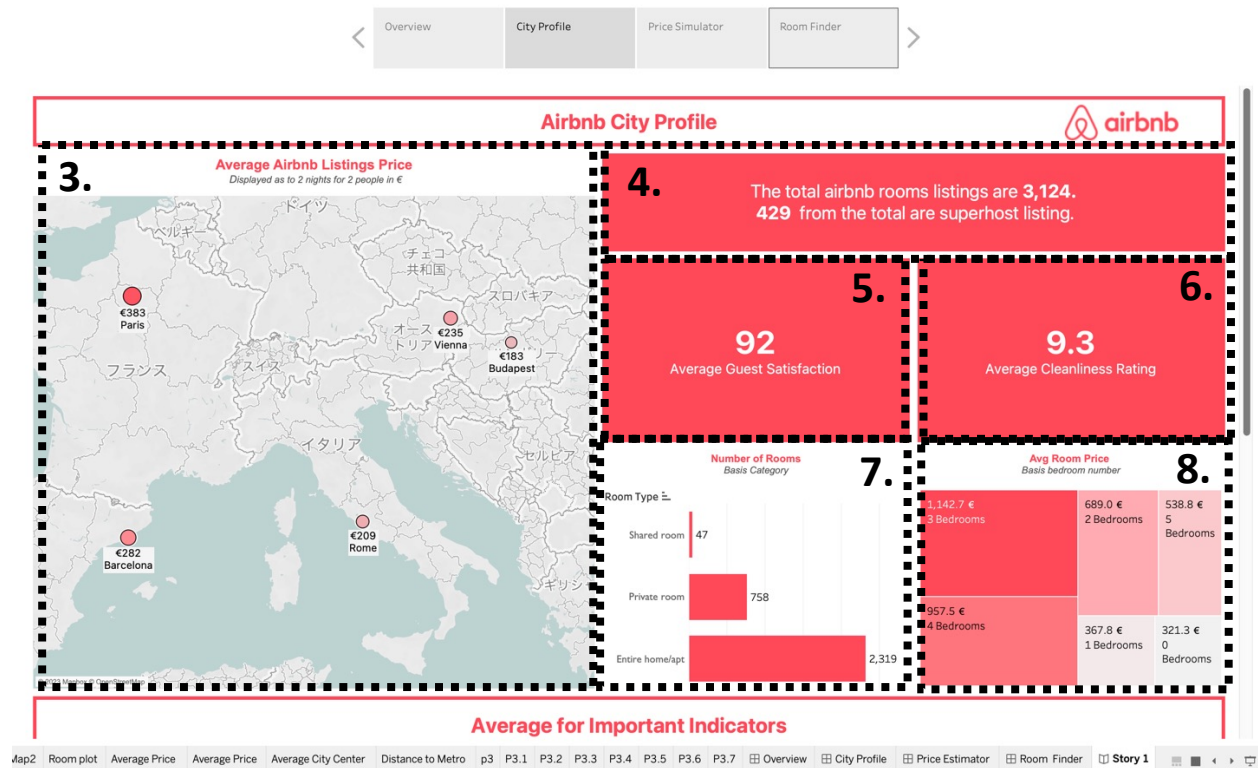
2.



## 2. Basic Company Information (Part2)

## -City Profile

The characteristics of each of the nine major European cities are visualized (Amsterdam, Athens, Barcelona, Berlin, Budapest, Lisbon, Paris, Rome). In this section, Airbnb users can know about the Airbnb features of each city before they travel to Europe.



3. Average airbnb listings prices (9 cities)
4. Showing the total number of Airbnb rooms listings and superhost listings.
5. Average guest satisfaction
6. Average cleanliness rating
7. Number of rooms basis category
8. Average room price basis bedroom number (Treemap)



9. Average for important indicators each city

## -Price Simulator

In this section, it predicts typical Airbnb accommodation costs based on data from nine major European cities. (2 nights, two people) Airbnb users can find out which factors affect the price and by how much when booking an Airbnb place to stay. The simulator is a linear regression model with the following variables as independent variables to predict the Price.

Room Type (categorical)

Day (categorical)

Person Capacity

Cleanliness Rating

Guest Satisfaction

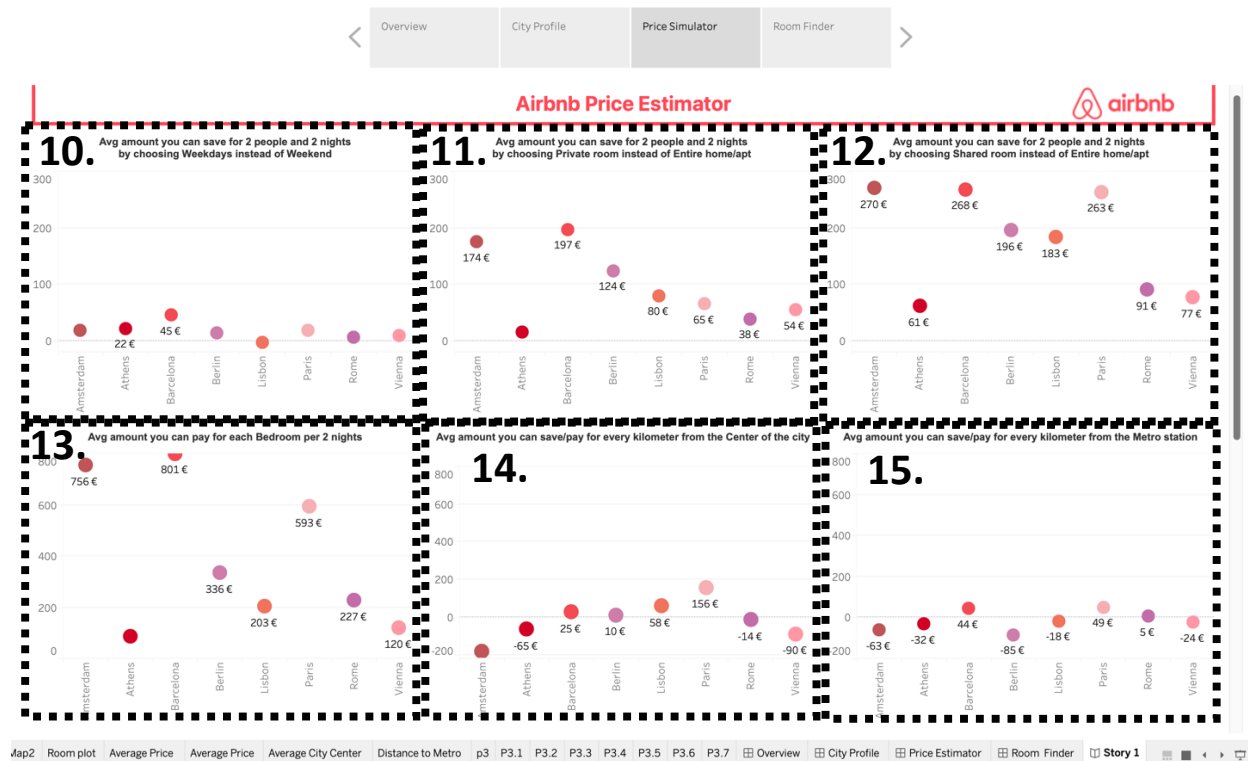
Bedrooms

City Center (km)

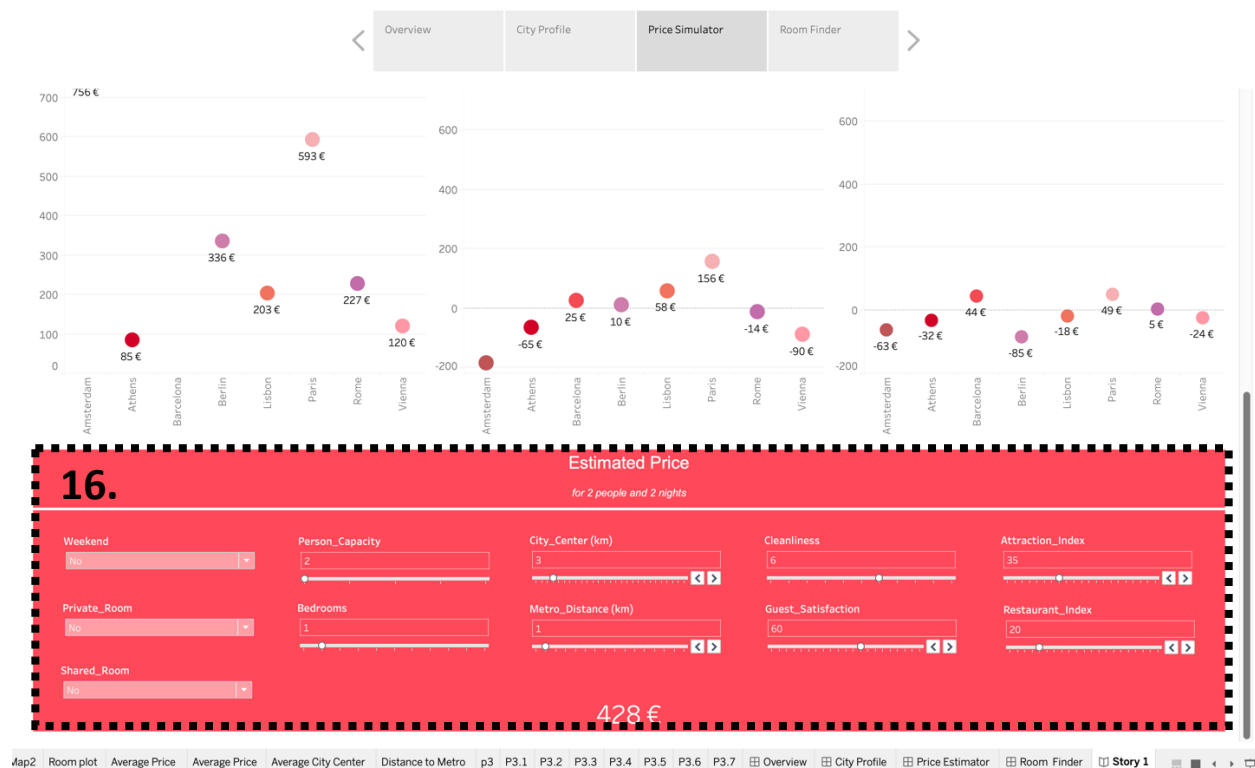
Metro Distance (km)

Norm Attraction Index

Norm Restaurant Index



10. Average amount you can save for 2 people and 2 nights by choosing weekdays instead of weekend.
11. Average amount you can save for 2 people and 2 nights by choosing private room instead of entire home/apt.
12. Average amount you can save for 2 people and 2 nights by choosing shared room instead of entire home/apt.
13. Average amount you can pay for each bedroom 2 nights.
14. Average amount you can save/pay for every kilometer from the center of the city.
15. Average amount you can save/pay for every kilometer from the Metro station.



## 16. Estimated Price



## -Room Finder

In this section, you can search for an Airbnb room that suits you by setting 'Day (weekday or Weekend)', 'Room type', 'Person Capacity', 'Max Price', 'Metro Distance', 'City Center' and 'Minimum Guest Satisfaction' in 9 European cities.


OverviewCity ProfilePrice SimulatorRoom Finder

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Airbnb Room Finder

(1- Select preferred city, 2- Use sliders to filter rooms, 3- See available listings in the table)

Price: the full price of accommodation for 2 people and 2 nights in EUR



Day: Weekday

Place Type: Shared room

Person Capacity: 4

Max Price: 259

Metro Distance (km): 0.008 - 9.210

City Center (km): 2.00 - 22.50

Min Guest Satisfaction: 70

Available Rooms According Selected Filters

ID	City	Attraction Index	Cleanliness Rating	Guest Satisfaction	Price
18003	Paris	15.7	8.0	88.0	223.7 €
22619	Amsterdam	2.6	8.0	84.0	192.9 €
26313	Barnaulna	6.6	8.0	83.0	171.9 €

Map2Room plotAverage PriceAverage PriceAverage City CenterDistance to Metrop3P3.1P3.2P3.3P3.4P3.5P3.6P3.7OverviewCity ProfilePrice EstimatorRoom FinderStory 1

## 17. Airbnb room finder

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Overview

City Profile

Price Simulator

Room Finder

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ID	City	Attraction Index	Cleanliness Rating	Guest Satisfaction	Price
18003	Paris	15.7	8.0	88.0	223.7 €
22619	Amsterdam	2.6	8.0	84.0	192.9 €
26313	Barcelona	5.6	8.0	83.0	171.3 €
29875	Berlin	7.3	6.0	80.0	150.7 €
30226	Berlin	19.4	9.0	89.0	150.0 €
30227	Berlin	20.4	10.0	98.0	150.0 €
30617	Berlin	19.9	10.0	96.0	147.7 €
30697	Lisbon	3.4	9.0	93.0	147.3 €
30987	Berlin	19.9	9.0	88.0	145.4 €
33404	Berlin	17.5	9.0	92.0	133.2 €
34926	Berlin	11.8	9.0	90.0	125.3 €
37192	Lisbon	3.2	10.0	96.0	111.4 €
37734	Paris	9.6	10.0	100.0	107.7 €
38704	Lisbon	1.8	9.0	91.0	100.8 €
39462	Lisbon	4.0	9.0	94.0	93.8 €
40098	Lisbon	3.7	9.0	100.0	88.2 €
40799	Rome	6.5	9.0	91.0	80.7 €
40922	Lisbon	3.1	9.0	86.0	77.9 €
40924	Lisbon	3.2	10.0	88.0	77.9 €
41598	Budapest	1.6	10.0	94.0	56.6 €
41628	Budapest	1.6	9.0	95.0	53.6 €

Map2

Room plot

Average Price

Average Price

Average City Center

Distance to Metro

p3

P3.1

P3.2

P3.3

P3.4

P3.5

P3.6

P3.7

Overview

City Profile

Price Estimator

Room Finder

Story 1

18. Search results for Airbnb room finder