

Airbnb Pricing and Occupancy Trends

Case:

Short-term rental platforms like Airbnb have transformed the hospitality industry, offering travelers unique accommodations and providing hosts with new revenue opportunities. However, pricing and occupancy rates vary based on location, amenities, and seasonality. Understanding these trends can help hosts optimize their pricing strategies, travelers find the best deals, and city regulators assess the impact of Airbnb on the local housing market.

For this project, you as a team can choose to analyze Airbnb pricing and occupancy trends in one of the following cities:

- **New York City, USA** – A highly active Airbnb market with diverse price points.
- **Paris, France** – A top tourist destination with strict short-term rental regulations.
- **Barcelona, Spain** – A city balancing tourism and housing concerns.
- **Bangkok, Thailand** – A growing Airbnb market with budget-friendly listings.
- **Sydney, Australia** – A mix of short-term and long-term rental dynamics.

Requirements & Insights:

- **Price Variation by Neighborhood:** Analyze how rental prices differ across city districts.
- **Peak Booking Periods:** Identify the months or seasons with the highest occupancy rates.
- **Amenities and Pricing Correlation:** Determine which features (e.g., Wi-Fi, pool, air conditioning) impact listing prices.
- **Popular Property Types:** Identify the most common Airbnb accommodations in different areas (e.g., apartments, private rooms, villas).
- **Occupancy Trends:** Examine how Airbnb occupancy rates fluctuate over time.

Recommendations:

- **For Hosts:** Suggest optimal pricing strategies based on trends and competition.
- **For Travelers:** Provide insights on the best times and places to book for affordability.
- **For City Planners:** Help policymakers understand Airbnb's impact on housing markets and local economies.

Tasks:

- **Data Preparation & Cleaning:** Load and preprocess Airbnb listing data using pandas.
- **Price Analysis:** Calculate average rental prices by neighborhood.
- **Seasonal Trends:** Identify peak booking periods based on occupancy rates.
- **Amenity Impact Analysis:** Explore correlations between listing price and included amenities.
- **Property Type Distribution:** Identify the most common types of Airbnb properties.
- **Visualization:** Create maps and graphs to illustrate pricing, occupancy, and trends.

Data Sources:

- **Inside Airbnb:** insideairbnb.com (detailed Airbnb listings and pricing data)
- **Kaggle:** [Kaggle Airbnb Datasets](https://www.kaggle.com/datasets) (search "Airbnb prices")