



AIRBNB DYNAMIC PRICING RECOMMENDATIONS

An Exploratory and Predictive Analysis of
Airbnb Listings

Tanvi Sawant
DATA ANALYST

Airbnb Dynamic Pricing Recommendation

Project Objective

To analyze historical Airbnb listing data and recommend optimal pricing based on location, seasonality, and listing quality.

Data Overview

- Source: [Inside Airbnb Dataset](#)
- Total Records: approx. *[insert your number]*
- Key Variables: room_type, price, number_of_reviews, neighbourhood_group, availability_365, etc.

Key Insights from Analysis

- **Manhattan and Brooklyn** are the most expensive neighbourhoods.
- **Entire home/apt** listings command the highest prices on average.
- Listings with more **positive reviews and high availability** tend to price higher.
- Price distribution is **right-skewed**; most listings are under \$500.

Predictive Modelling

- Used **Linear Regression** to model price based on predictors.
- **Significant Predictors:** Room type, reviews, location (lat/long), availability.
- **Model Metrics:**
 - RMSE: 96.68
 - R² Score: 0.27

Tableau Dashboard Highlights

- **Interactive Filters:** Room type, price range, neighbourhood.
- **Visuals:**
 - Map showing price distribution by location
 - Bar chart for avg price by neighbourhood
 - Scatter plot (Reviews vs Price)
 - Histogram for price spread

Insights

- *Room Type Impact:* Entire homes/apts have the highest average prices across NYC.
- *Neighborhood Differences:* Manhattan listings tend to be priced highest.

- *Reviews vs Price*: Popular listings (higher reviews) aren't always the most expensive.
- *Price Distribution*: Most listings are priced under \$200, suggesting a sweet spot for competitiveness.
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Recommendations

- For **premium pricing**, list properties in **central areas** like Manhattan.
- Choose "**Entire home/apt**" for higher revenue potential.
- Maintain **high availability and encourage guest reviews** to justify pricing.
- Dynamic pricing can be based on review count + location + seasonality.
- Set prices between \$100–\$200 to attract more bookings while staying profitable.
- If listing in Manhattan, consider slightly premium pricing due to demand.
- Improve review count and quality to enhance listing appeal.
- Adjust prices seasonally and monitor competition using tools like this dashboard.

Conclusion

- *This engine provides dynamic pricing recommendations based on historical trends and listing features. Future improvements may include seasonal time-series forecasting and sentiment analysis from reviews.*