Data-Driven Insights: Unveiling Opportunities for Revenue Growth at Airbnb

AGENDA

- Background
- Objective
- Data Preparation and Cleaning
- Insights
- Appendix :
  - Data Methodology
  - Data Model Assumptions

Background:

- Airbnb has experienced a significant decline in revenue in recent months, attributed to the impact of COVID-19.
- With the gradual lifting of restrictions and an increase in travel activity, Airbnb aims to recover from these losses and ensure preparedness for the impending changes in the market.
- Airbnb's leadership seeks to gain valuable insights from various dataset attributes to strategize effectively and drive revenue growth.

Objective :

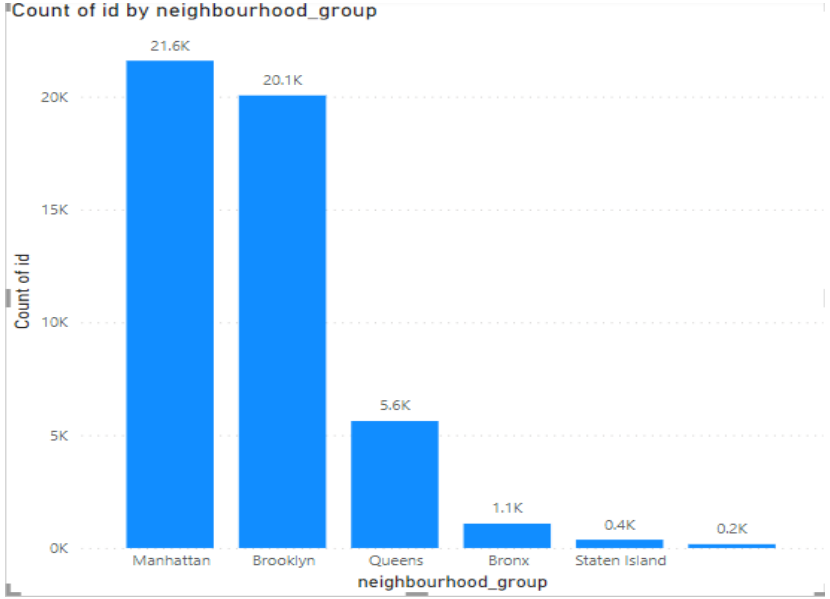
- Strategically analyze dataset attributes to facilitate Airbnb's revenue recovery post-COVID-19.
- Gain insights to ensure Airbnb is fully prepared for the shift in travel trends as restrictions ease.
- Identify key dataset attributes to inform revenue-increasing strategies and optimize business outcomes.

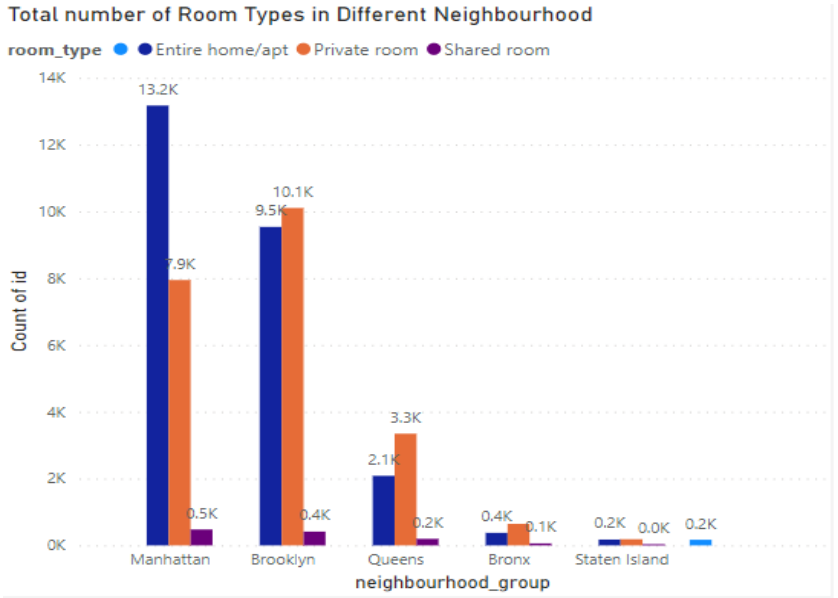
Data Preparation and Cleaning

- Removed any missing values and duplicates from the dataset to ensure data integrity and accuracy.
- Dropped insignificant columns that do not contribute to the analysis or insights.
- Identified and addressed outliers in the dataset to prevent them from skewing the analysis results.

Total Number of Room Types in different Neighbourhood

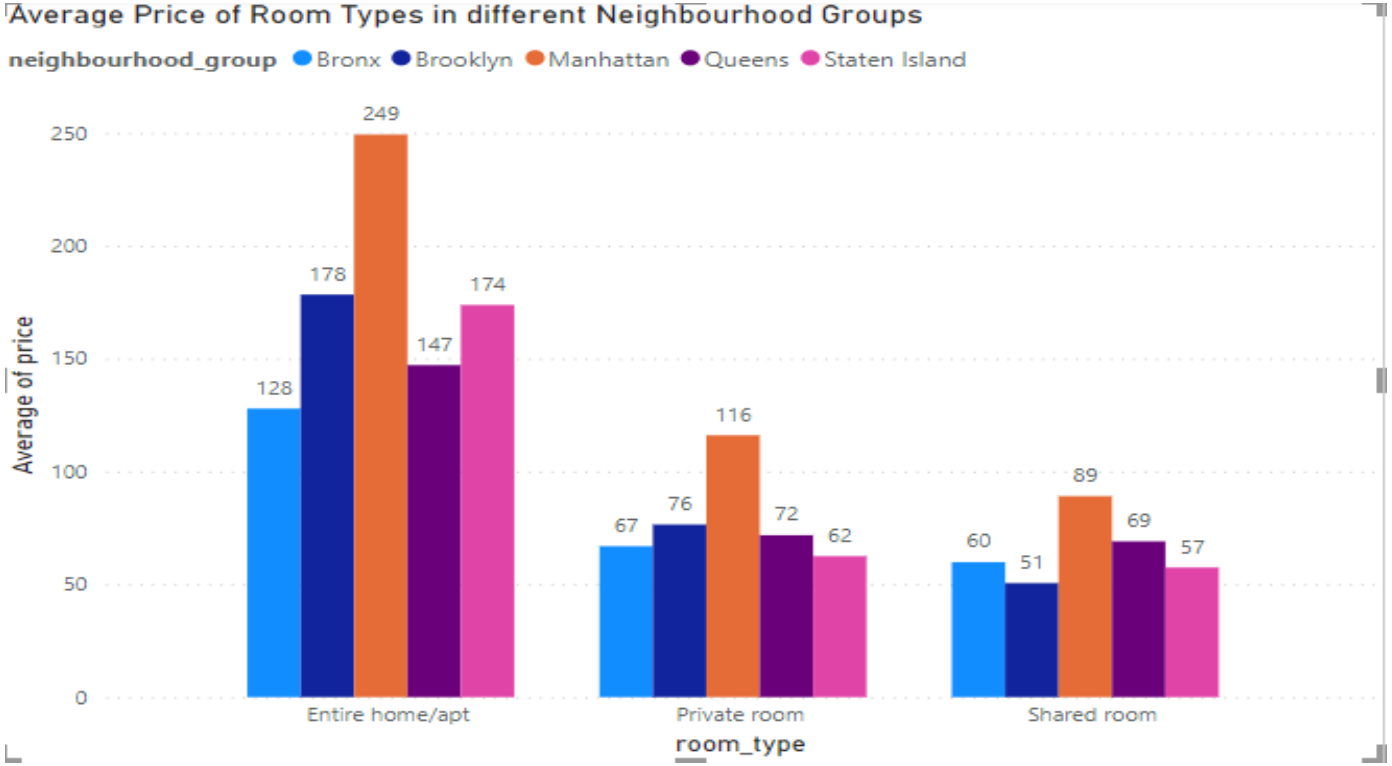
- Manhattan stands out with the highest overall number of Airbnb listings.
- Manhattan has the highest number of Entire home/apt whereas Brooklyn has the most private rooms.
- Staten Island has the lowest count of Airbnb listings across all room types.
- Shared rooms consistently have the lowest count in all of the room types.





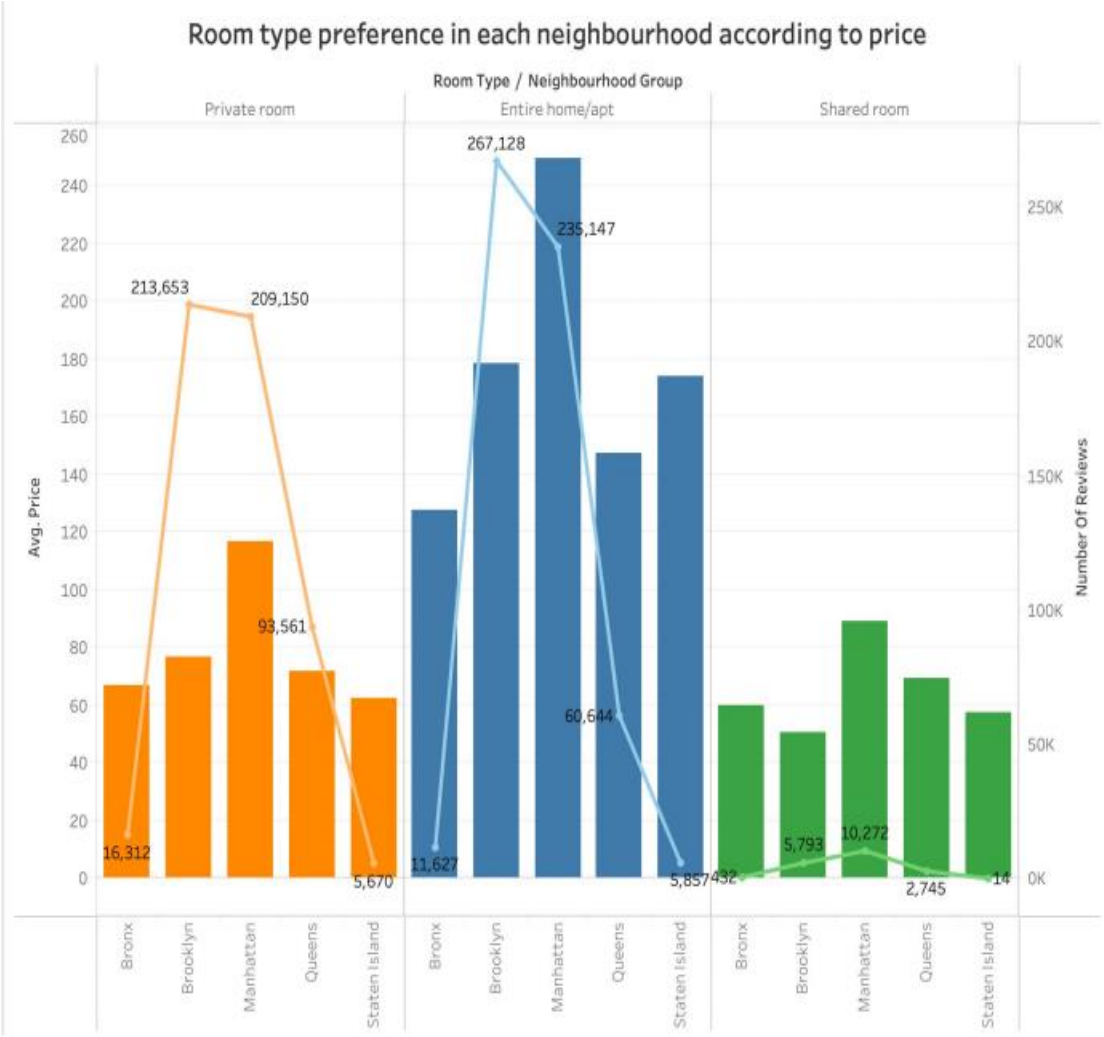
Average Price of Room Types in Different Neighbourhood Groups

- Shared and private rooms tend to have lower average prices, while Entire home/apartments command higher prices across neighborhood groups.
- Manhattan emerges as the most expensive neighborhood group, consistently displaying higher average prices across all three types of rooms compared to other areas.
- The higher room count in Manhattan may contribute to this pricing trend.



Room type people preferences based on total reviews and average price

- Entire home/apartments exhibit both the highest number of reviews and a consistent trend of higher average room prices.
- Manhattan boasts the highest average prices across all three types of rooms.
- Brooklyn, while having lower average prices, leads in the total number of reviews.
- Shared rooms tend to have lower prices and attract a comparatively lower total number of reviews.



Appendix : Data Assumptions

- The Price column is assumed to represent the price per night.
- Average price and total number of reviews are considered fundamental measures for understanding customer preferences.
- The analysis uses the average price for price-related insights and the sum of reviews for understanding customer engagement.
- In Dual Axis plots, both axes are not synchronized due to the wide range in magnitudes of the features.
- The last_review column has been excluded from the analysis.

Appendix: Data Methodology

- Conducted a detailed exploratory data analysis on Airbnb data to uncover valuable insights.
- Utilized Python for identifying and handling missing values.
- Conducted a sanity check on columns 'Id' and 'Price' to ensure data integrity. Verified that all Ids are unique and identified and handled any negative prices.
- Used Power BI and Tableau for creating visualizations to identify customer preferences.
- Visualized insights based on:

  Neighborhood Groups

  Room Type

  Average Price

  Number of Reviews

- Finally, found important insights based on the each of the created charts.

THANKYOU