Strategic insights: Enhancing Property Acquisition and User Experience 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.
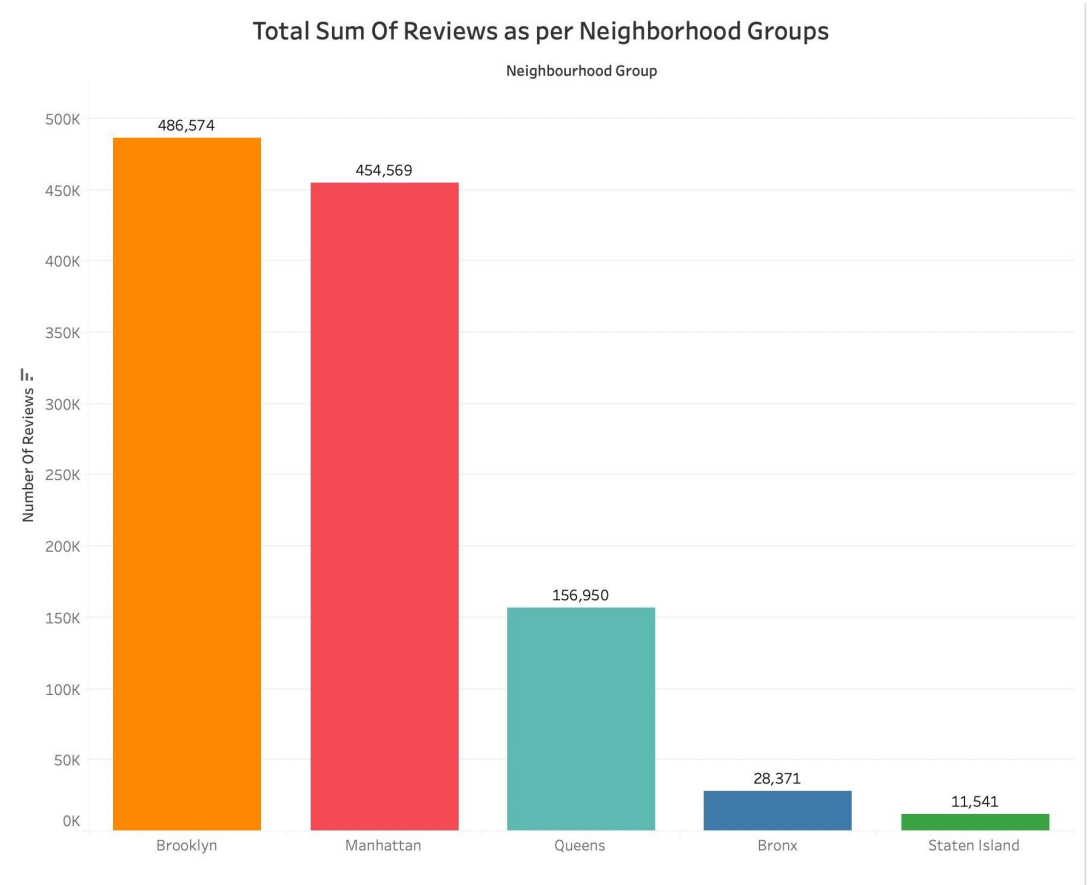
AVERAGE ROOM PRICE IN DIFFERENT NEIGHBORHOOD GROUPS

- This chart displays the average costs of rooms in different neighborhood groups.

- Living in Manhattan is costly as the average room price is the highest for Manhattan.

- The second costly neighborhood group is Brooklyn, followed by Staten Island.

- Bronx is the cheapest neighborhood group as it has the lowest average room price as compared to others.

Average Room Price in different Neighbourhood Groups
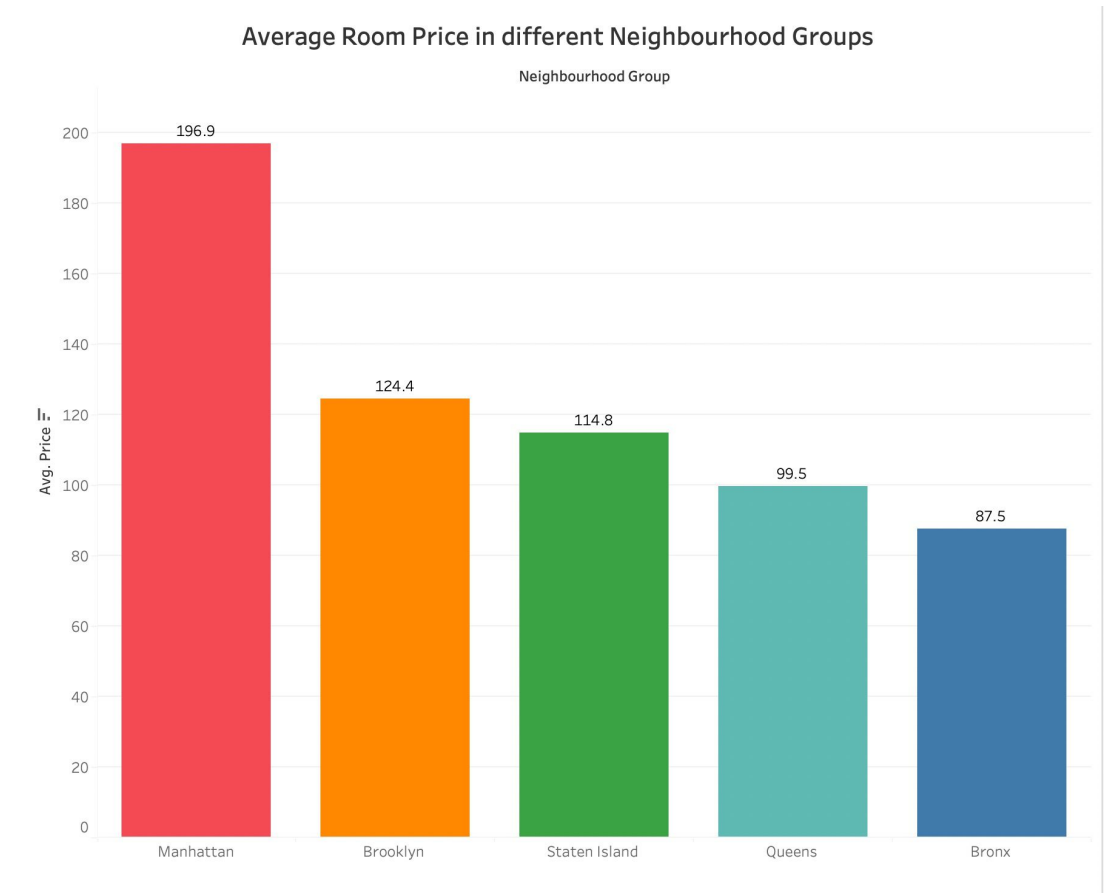
TOTAL NUMBER OF REVIEWS AS PER NEIGHBORHOOD GROUPS

- This chart displays the total reviews in different neighborhood groups.

- Brooklyn has the highest total reviews of about 486,574 reviews, followed by Manhattan at 454,569.

- Queens, Bronx and Staten Island have significantly lower number of reviews as compared to Brooklyn and Manhattan.

- Staten Island is the lowest in chart at about 11,541 reviews.

Total Sum Of Reviews as per Neighborhood Groups

Neighbourhood Group

Brooklyn	486,574
Manhattan	454,569
Queens	156,950
Bronx	28,371
Staten Island	11,541

AVERAGE MINIMUM NIGHTS SPENT IN DIFFERENT NEIGHBORHOODS

- This chart displays the top 10 neighborhood with the average of the minimum nights spent, clustered according to the neighborhood group.

- Majority of the neighborhoods in the top 10 list belong to Bronx, which indicates that people prefer Bronx.

- Spuyten Duyvil is the neighborhood with the highest average of minimum nights overall, whereas Claremont village is having the overall lowest average of minimum nights. Both of these neighborhoods belong to Bronx.

- In Manhattan, Battery Park City and Murraly Hill are the cities with the highest and lowest average minimum nights spent respetively.

Average Minimum Nights Spent in different Neighbourhood
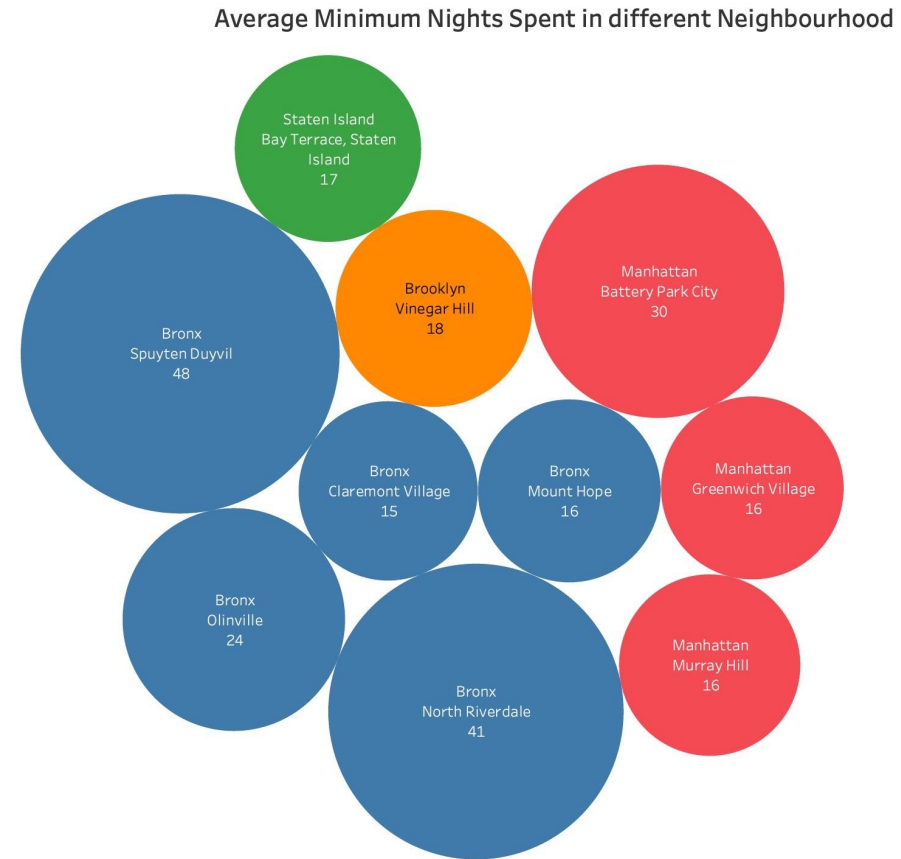
KEY INSIGHTS

- Most Expensive Neighborhood Group (Average Room Price): Manhattan

   Manhattan is the most expensive neighborhood group when considering the average price of rooms.

- Highest Total Reviews: Brooklyn

   Brooklyn leads in terms of total reviews, indicating that it is a popular choice among visitors or residents.

- Highest Minimum Nights Spent: Spuyten Duyvil, Bronx

   The neighborhood of Spuyten Duyvil in the Bronx has the highest minimum nights spent, suggesting that visitors tend to stay for a longer duration there.

RECOMMENDATIONS

- Focus on Bronx:

    Despite having lower average room costs, the Bronx has fewer reviews. You suggest that the company should focus more on promoting accommodations in the Bronx, possibly by offering promotions or incentives to attract more visitors.

- Promote Brooklyn:

    Since Brooklyn has the highest number of reviews, you recommend promoting accommodations in this neighborhood. This could involve marketing campaigns, special offers, or highlighting the positive aspects of staying in Brooklyn to attract even more guests.

- Emphasize Longer Stays in Bronx Neighborhoods:

    Considering that people tend to stay longer in neighborhoods in the Bronx, you propose that the company should specifically target and emphasize accommodations in these areas for individuals or groups looking for extended stays.

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