Impact of Customer Preferences on Airbnb revenue

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Agenda

- Objective
- Background
- Key findings
- Recommendations
- Appendix:
  - Data Sources
  - Data Methodology
  - Data Model Assumptions

Objective

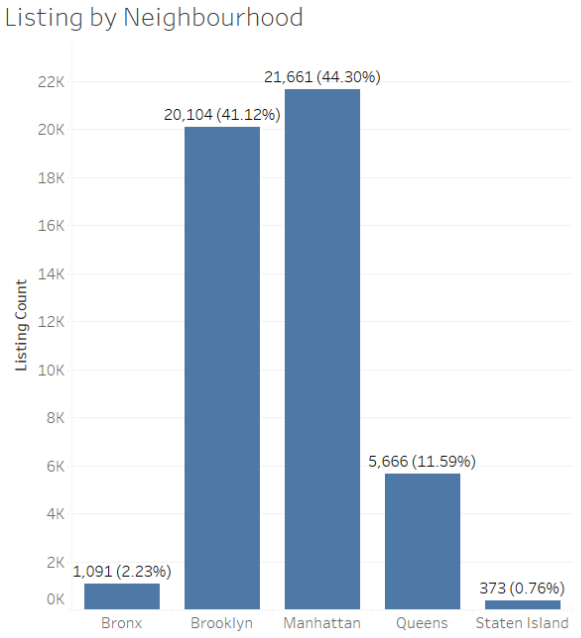
- Improve our shared understanding on insights gathered in the analysis
- Improve data cleaning and data preprocessing techniques to get better insights
- Share detail analysis to our Lead Data Manger and Lead Data Analyst

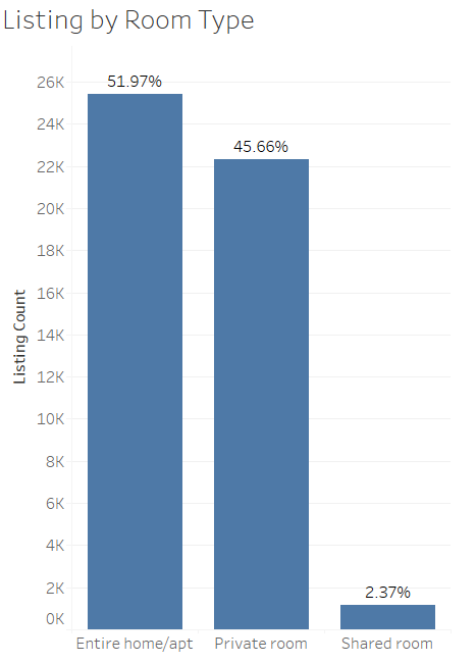
Background

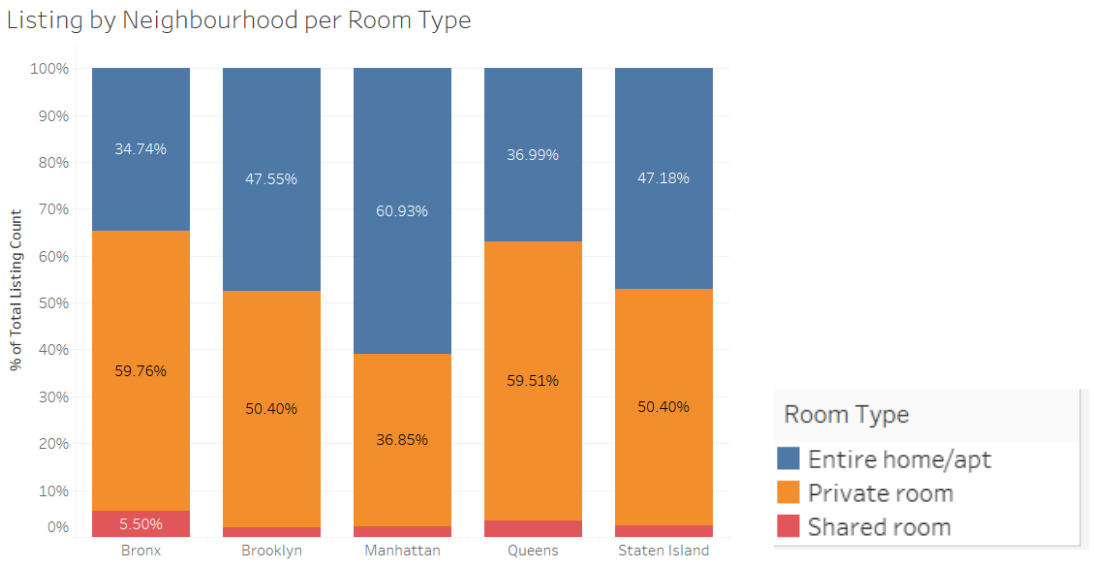
- Airbnb has seen a major decline in revenue for the past few months due to pandemic
- Restrictions have started lifting
- People started to travel

Listing distribution

- Manhattan gets maximum listings ~44% followed by Brooklyn and Staten Island observing very less listing
- There are almost ~52% listing of Entire home/apt room type and only ~2% listings are available for shared room
- Only Manhattan has ~61% listings of Entire room/apt and rest neighborhoods observe highest percentage listing in private room
- listing of shared room in all geographies lies between 2-5 % only



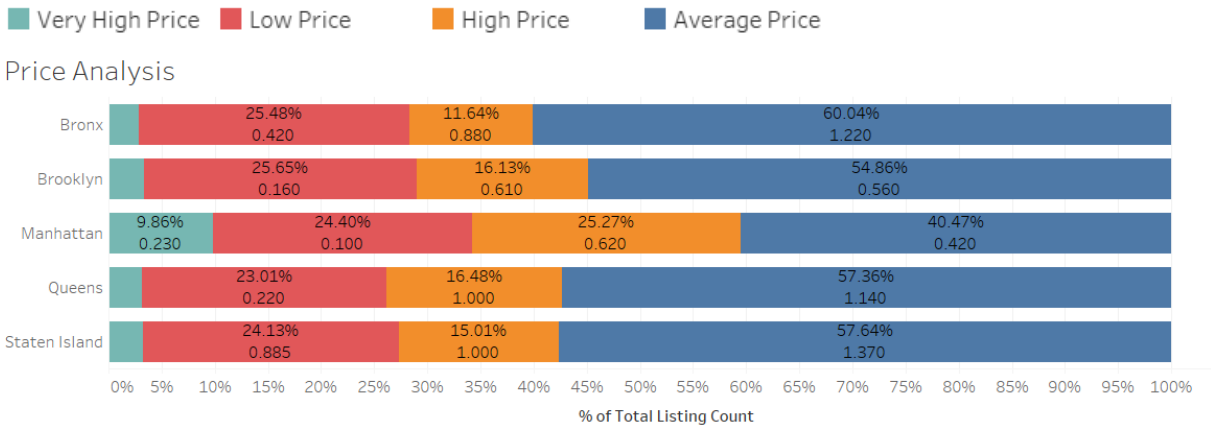


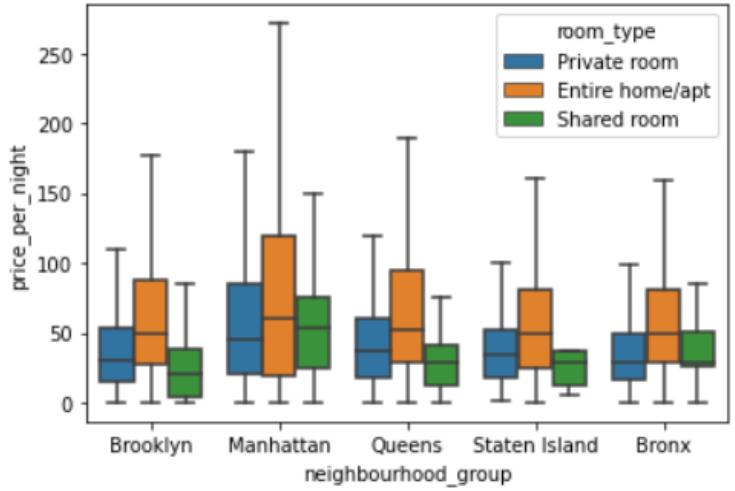


Price Analysis

After excluding outliers in price feature following results are obtained:

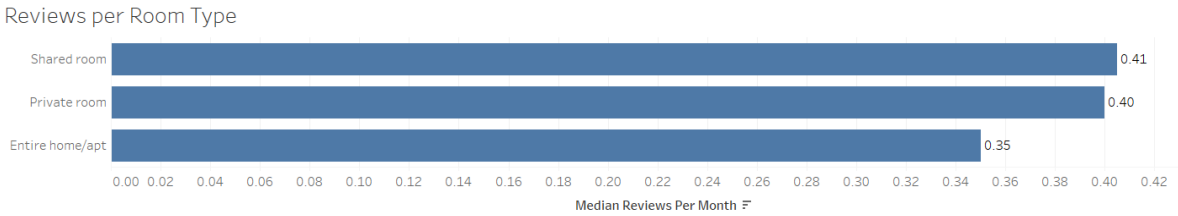
- Low Price listing shares ~25% across all neighborhoods receives very low reviews per month on the other hand listings offers average price shares > 50% across all neighborhood receives decent number of reviews
- Manhattan is the only neighborhood offers high price ranges per night across all room types
- Entire home/apt charges highest price ranges across all neighborhoods

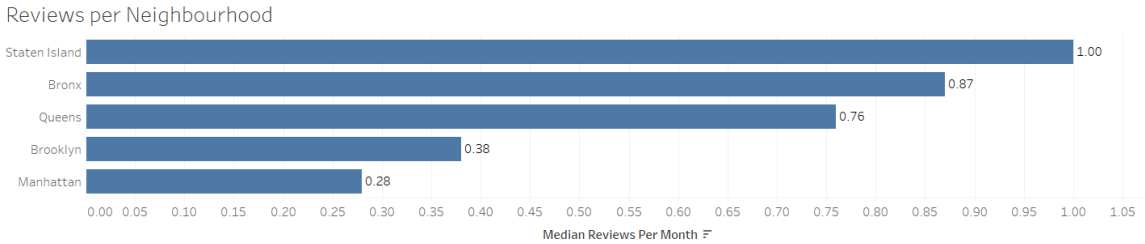


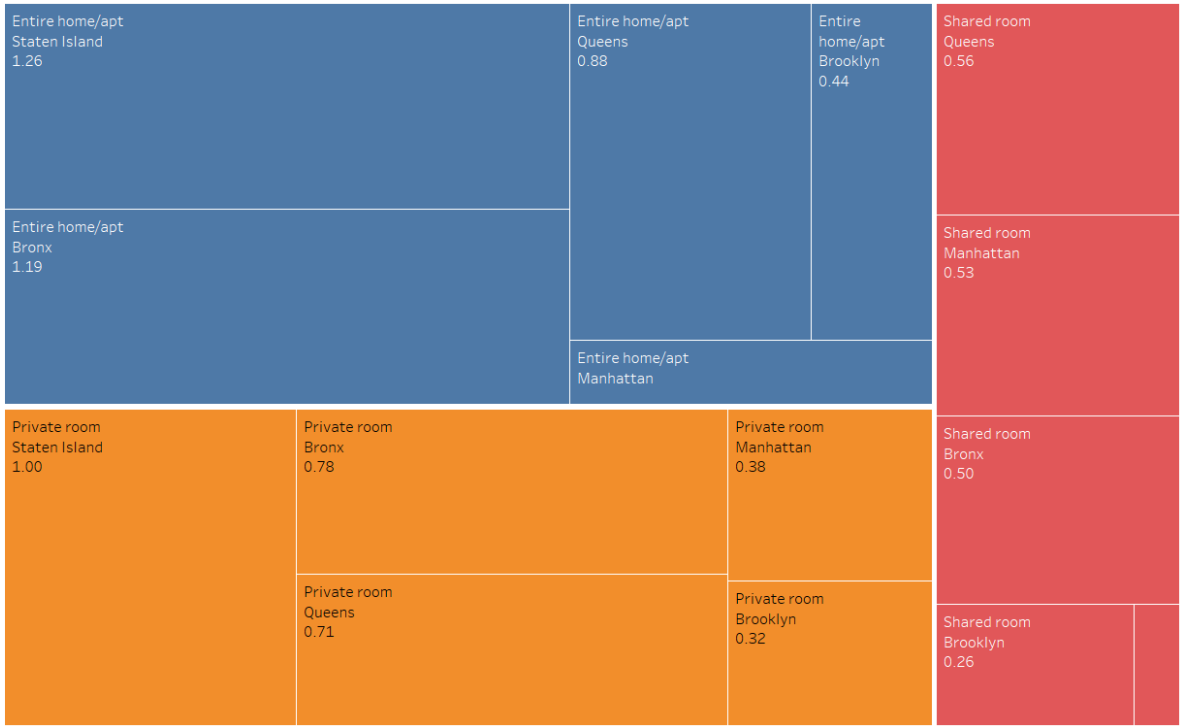


Customer preference analysis

- Shared and private rooms are the most popular room types showing median > **0.4** reviews per month per listing
- Customer prefers Staten Island and Bronx neighborhoods over other geographies in NYC
- Staten Island and Bronx neighborhoods are mostly popular in Entire home/apt and Private room section

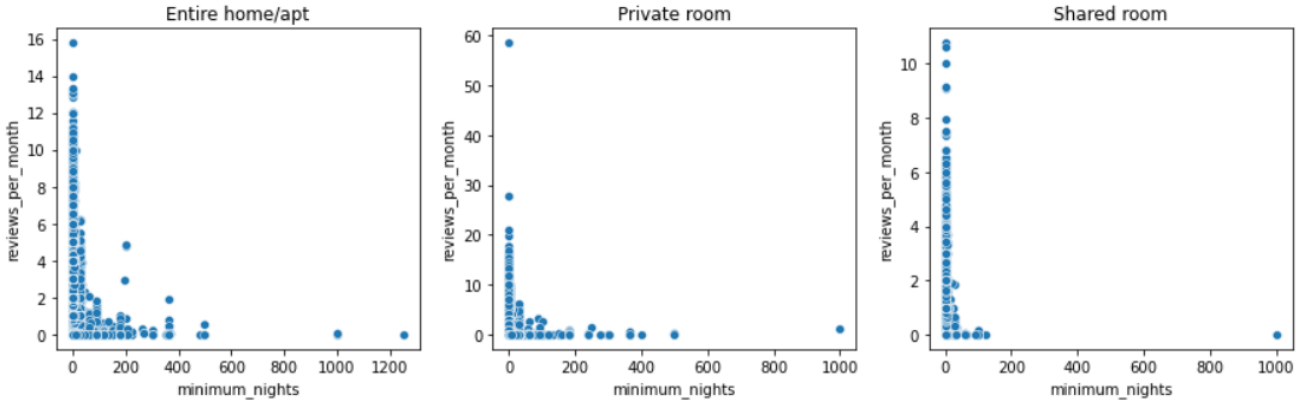




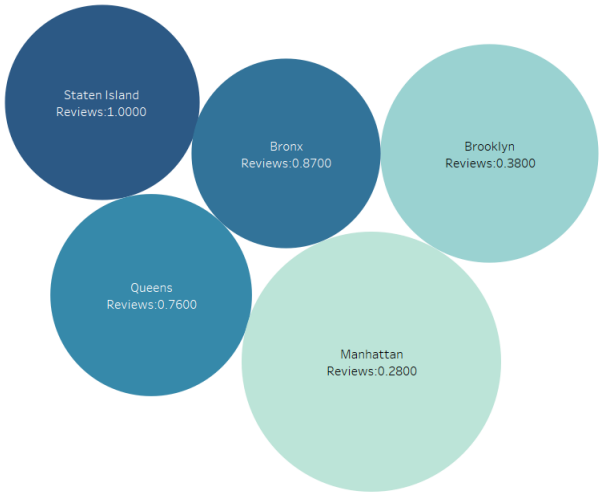


Customer preference analysis

Customer is preferring listings that have minimum night stay across all room types.



Minimum Night Stay vs Reviews per Neighborhood



Recommendations

- Suggest hosts keeping night stay minimum for their listings or provide some discount on listing price for maximum night stay
- Promote hosts for increasing number of listings in Staten Island and Bronx neighborhood since they are popular compared to another neighborhood
- Listing price per night can be reduced in Manhattan neighborhood to get good customer review

Appendix

- Data sources
  - 2019 Airbnb listing data set from New York city
- Data dictionary
  - listing locations and its room type
  - Listing price, and its reviews
- Data Methodology
  - Data cleaned by dropping unnecessary features and imputing null values
  - Box-whisker plots used to detect outliers
  - New feature created such as price per night for price analysis across room type and neighborhood
  - Python used for data pre-processing and univariate and bivariate analysis
  - Tableau used for data visualization
- Data Assumptions
  - The reviews per listing assumed to be positive reviews to define listing popularity
  - The listing price is the total price for all minimum nights

Thank you