Impact of customer preference on rentals

Madhura Pathak
Prachi Faye

Objective

Business Model And Background

Analysis

Recommendations

Appendix:

- Data sources
- Data methodology
- Data model assumptions

BY MADHURA PATHAK & PRACHI FAYE

Objective

❑ Travel restrictions have started lifting and people have started to travel more, Airbnb wants to make sure that it is fully prepared for this change.

❑ Hence leaders at Airbnb want to understand some important insights

❑ To do analysis to understand customer reviews impact on overall demand and in turn the revenue of company.

![airbnb logo]

Revenue

Business Model And Background

❑ In spite of boasting a network of 5.6 million properties across 220 countries, Airbnb doesn't own any of the properties listed on its platform.

❑ Airbnb's business model entails receiving a commission on the bookings made through its marketplace platform.

❑ For the past few months, Airbnb has seen a major decline in revenue.

❑ Now that the restrictions have started lifting and people have started to travel more, Airbnb wants to make sure that it is fully prepared for this change.
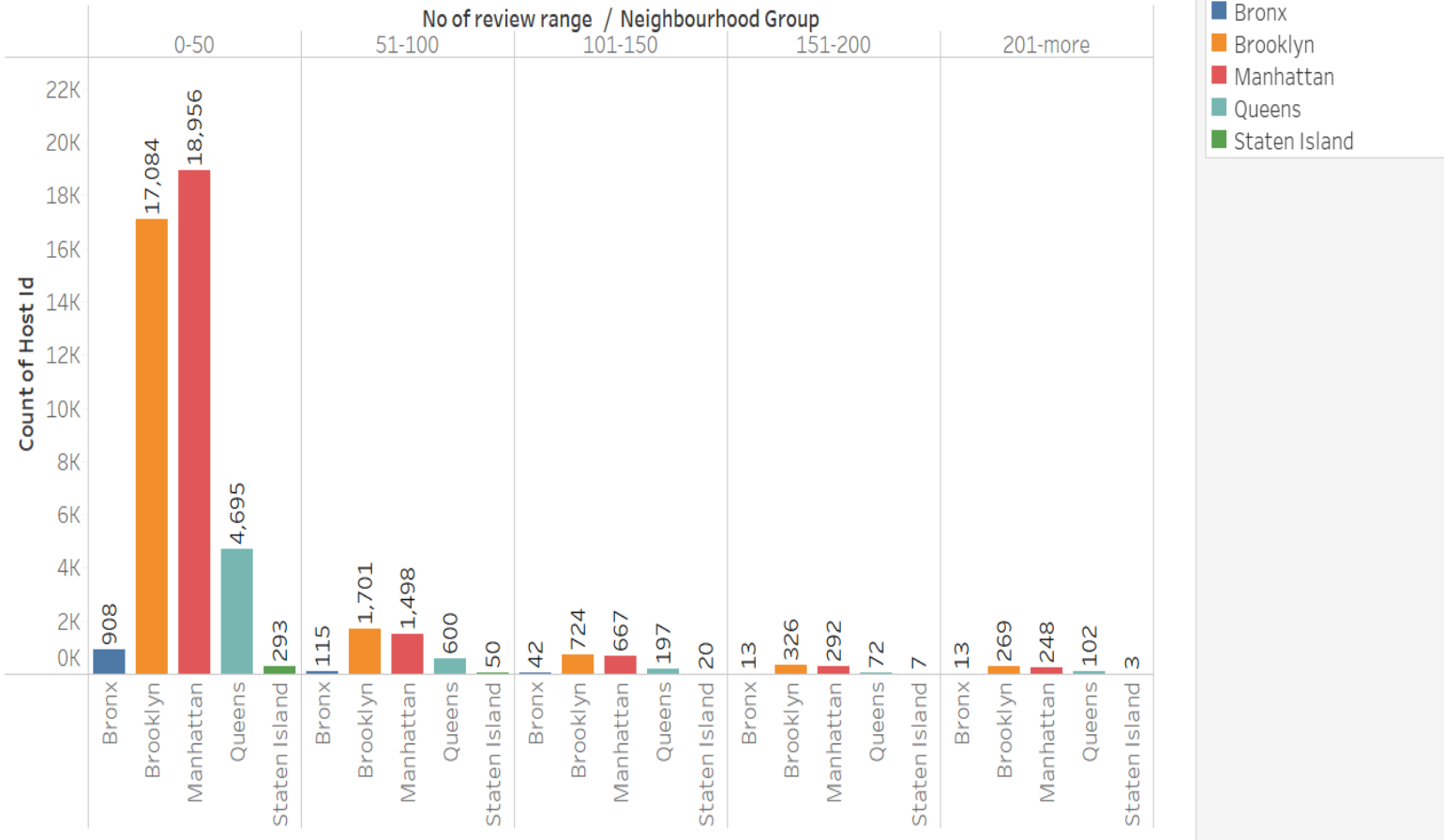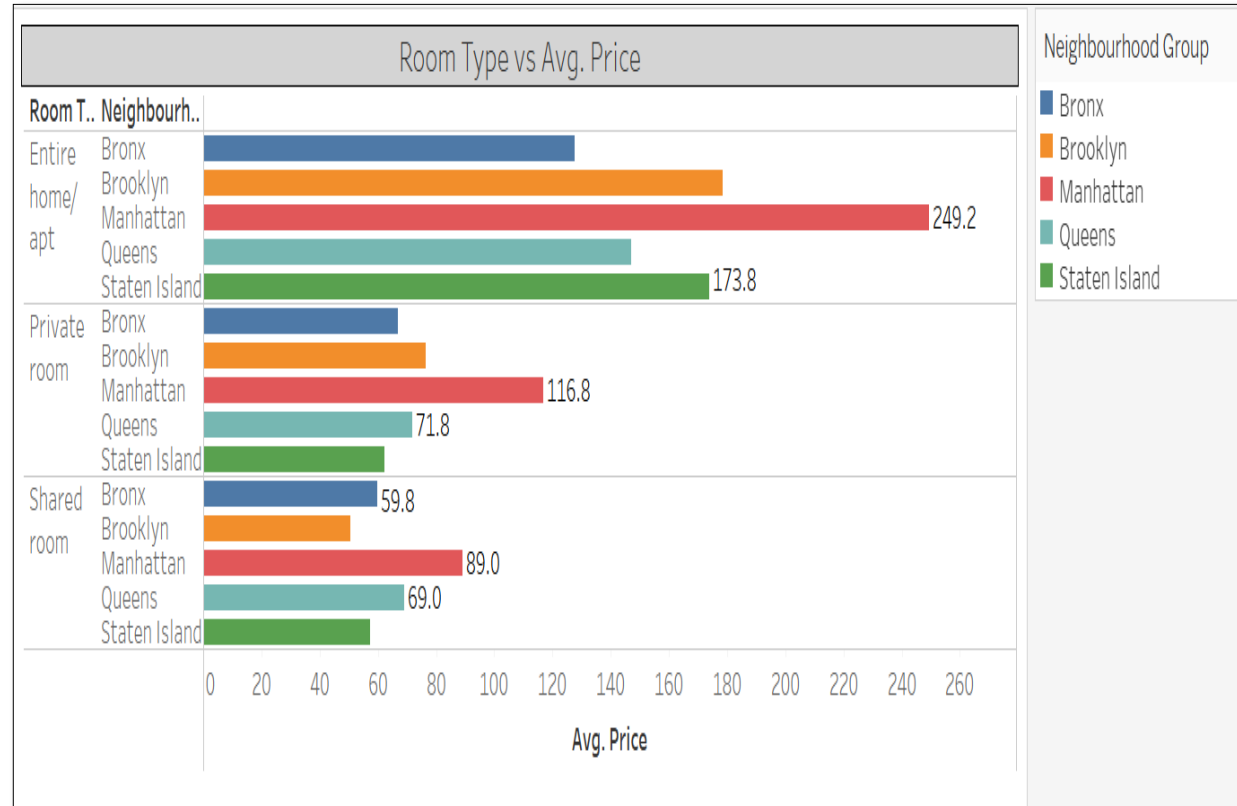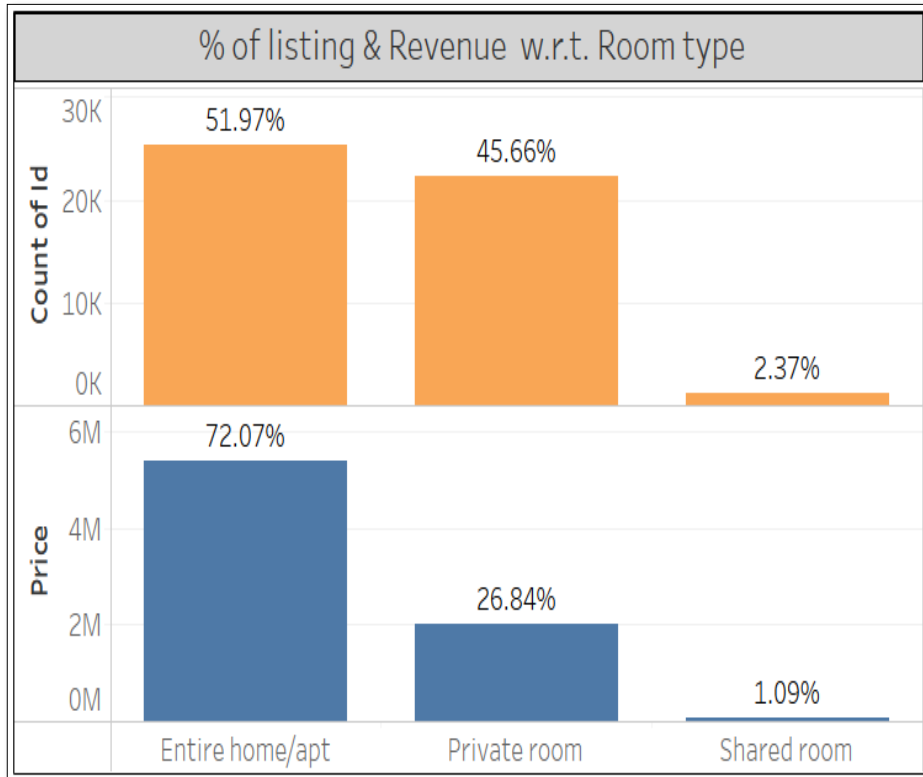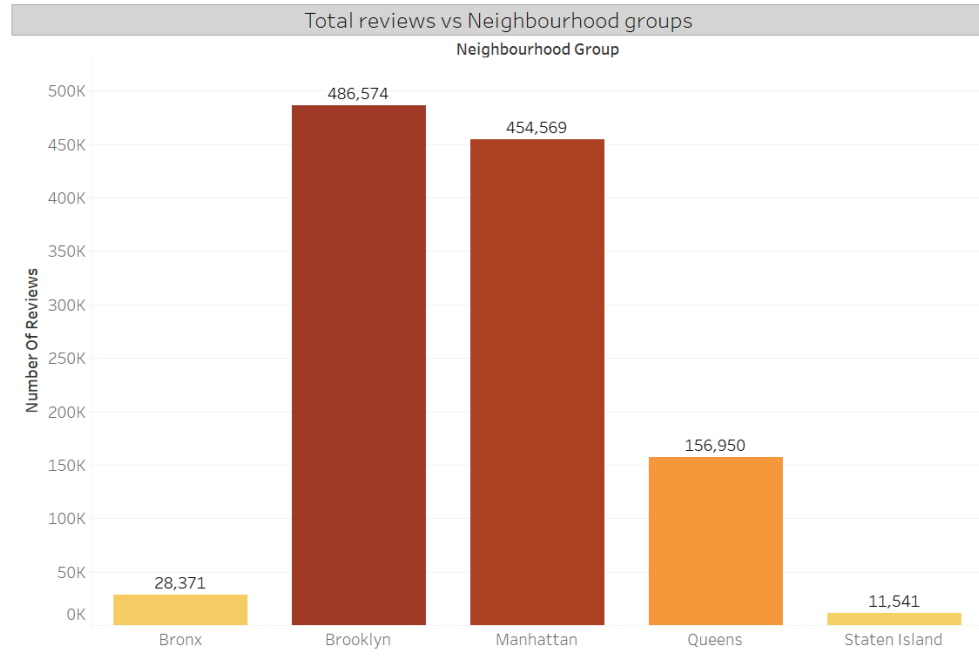
Analysis

❑ The most preferred pricing range is 0-50 USD by customers.

❑ The highest demand for that in neighborhood groups named **Manhattan** and **Brooklyn** (18.9K and 17K respectively) followed by Queens (4.6K).

❑ From the above graph we can see that the most preferred room type is **Entire Home/ Apt** followed by Private room and Shared room.

❑ The properties in Manhattan are the most expensive than any other area also it has the highest contribution of **Entire Home/ Apt** compared to the overall contribution of Entire home/apt..

Total reviews vs Neighbourhood groups

Neighbourhood Group

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

Top Ten Properties with Most Reviews

Price Range
- 0-70
- 71-150
- 151-300

Name	Min Ni..	Number Of Reviews
#NAME?	0-4	44 + 827
Private Bedroom in Manhattan	0-4	48 + 618
Room near JFK Queen Bed	0-4	629
Beautiful Bedroom in Man..	0-4	617
Great Bedroom in Manhattan	0-4	607
Room Near JFK Twin Beds	0-4	576
Steps away from Laguardia airport	0-4	543
Manhattan Lux Loft.Like.Love.Lo..	0-4	540
Cozy Room Family Home LGA Airpo..	0-4	510
Private brownstone stu..	0-4	488

❑ Brooklyn have the highest reviews as compared to other neighborhood groups.

❑ Staten Island has less reviews which is still a developing place so most people prefer renting out.
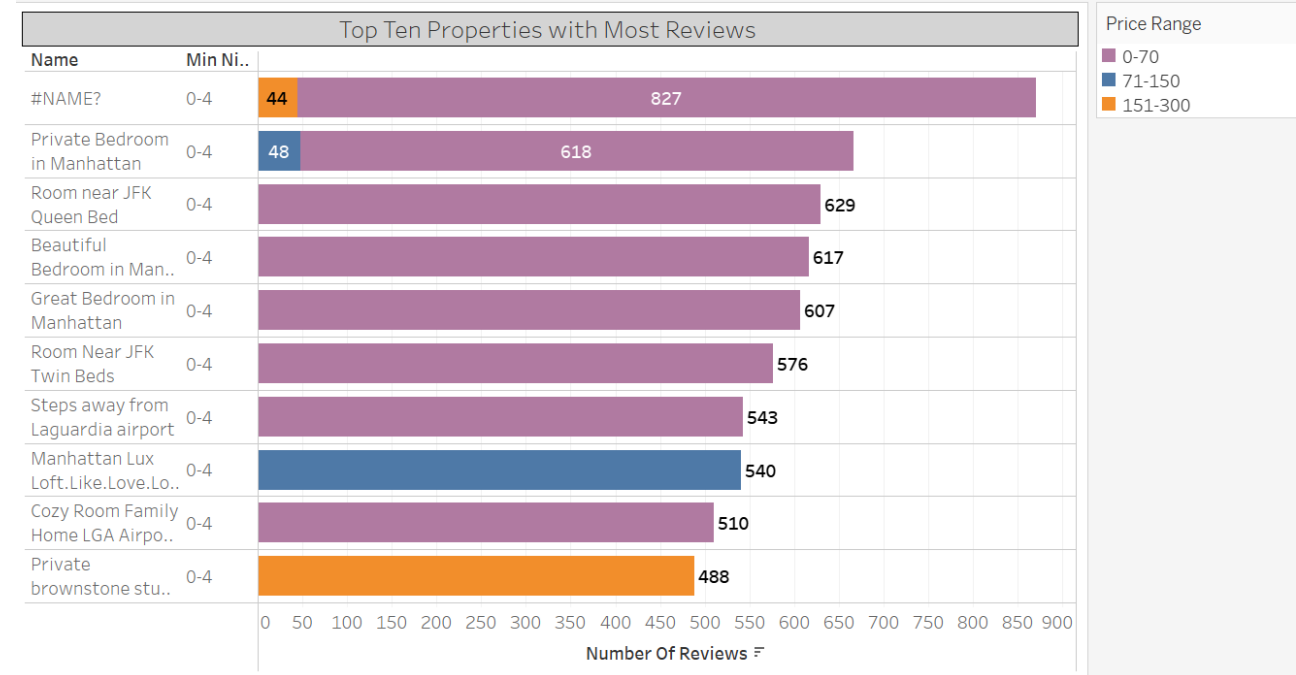
❑ We can see that top ten properties with highest review and preferred price range "upto 70".

❑ Host John from Williamsburg, Brooklyn have highest 827 reviews . However he has not given name to the property correctly so that people can locate it .

❑ Also out of the top 5 properties with highest reviews majority are private rooms.

Recommendation

❑ We observed that neighborhoods in Staten island have more availability and high price. If we reduce the price, we can rent them more.

❑ The data had many missing values and NULL values. We should aim to get more cleaner data.

❑ Some of the outliers are not beyond logic. For example, 0 rent for few properties.

❑ Also, few have very high min nights. We need to ensure that the data collection is done properly.

| Column	Description
id	listing ID
name	name of the listing
host_id	host ID
host_name	name of the host
neighbourhood_group	location
neighbourhood	area
latitude	latitude coordinates
longitude	longitude coordinates
room_type	listing space type
price	
minimum_nights	amount of nights minimum
number_of_reviews	number of reviews
last_review	latest review
reviews_per_month	number of reviews per month
calculated_host_listings_count	amount of listing per host
availability_365	number of days when listing is available for booking

Appendix – Data Sources

❑ The Data dictionary consists
  ▪ Host details such as Id, name, host name and host id.
  ▪ Property Listings information such as latitude, longitude, price, room type.

❑ We were provided with New York Airbnb Dataset by UpGrad team.

❑ The survey conducted in 2019.

Appendix – Data Methodology

❑ We used Jupyter notebook to read the data , data cleaning and feature engineering.

❑ However, Tableau was used to do the visualizations.

❑ We didn't deal with outliers as we observed that if we remove them , insights from data were getting lost.

❑ We imputed the missing values in "reviews_per_month" by 0. We didn't impute it with mean as we found that the values were not missing randomly. May be people who were not satisfied with property didn't give any review.
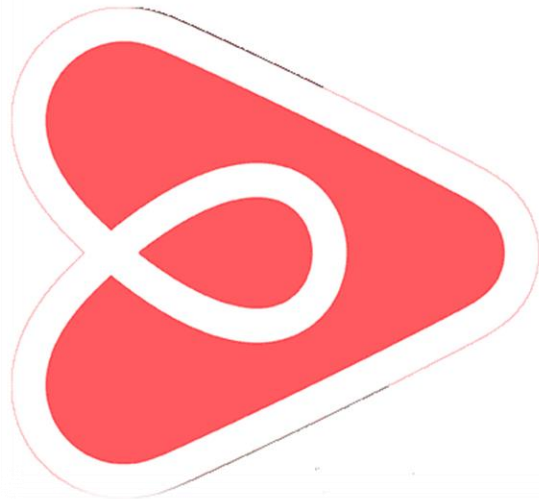
BY MADHURA PATHAK & PRACHI FAYE

![airbnb]
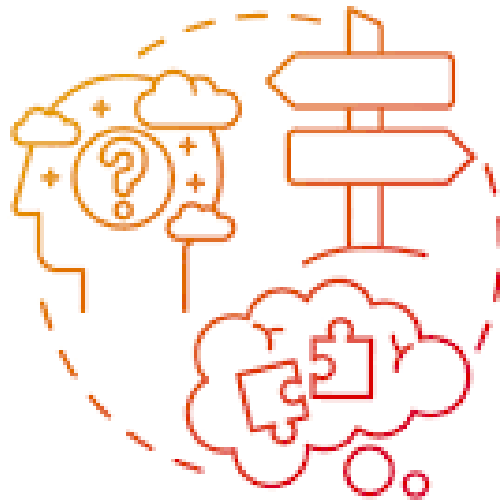
Appendix – Assumptions

❑ User reviews per listing are assumed to be positive reviews and considered as popularity measure to gain information on customer preferences. Number of reviews are assumed to be base measure to find customer preferences.

❑ Null values assumed to have no material impact on analysis. Sum of price is assumed to be the revenue generated for getting valuable insights.

❑ Airbnb Guests have a plethora of options to choose from; on one single platform. For this case study we are considering only 3 types of room types.

ASSUMPTIONS

thank you!

airbnb

BY MADHURA PATHAK & PRACHI FAYE