AIRBNB NYC Case Study

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Introduction

▶ Airbnb, Inc. is an American company that operates an online marketplace for lodging, primarily homestays for vacation rentals, and tourism activities. Airbnb provides a platform for hosts to accommodate guests with short-term lodging and tourism-related activities.

▶ New York City is the most diverse and populated city in the United States. The city is made up of 5 burrows: Manhattan, Brooklyn, Queens, the Bronx and Staten Island, all of which were "grouped" together into a single city. It is widely recognized as the global centre for the financial services industry. It's also the heartbeat of the American media, entertainment (along with California), telecommunications, law and advertising industries.

Problem statement

▶ 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.

▶ So, analysis has been done on a dataset consisting of various Airbnb listings in

▶ New York.

Objective

The presentation will focus mainly on the following points:

- Get a better understanding about Airbnb listings with respect to various parameters

- Understand the customer preferences
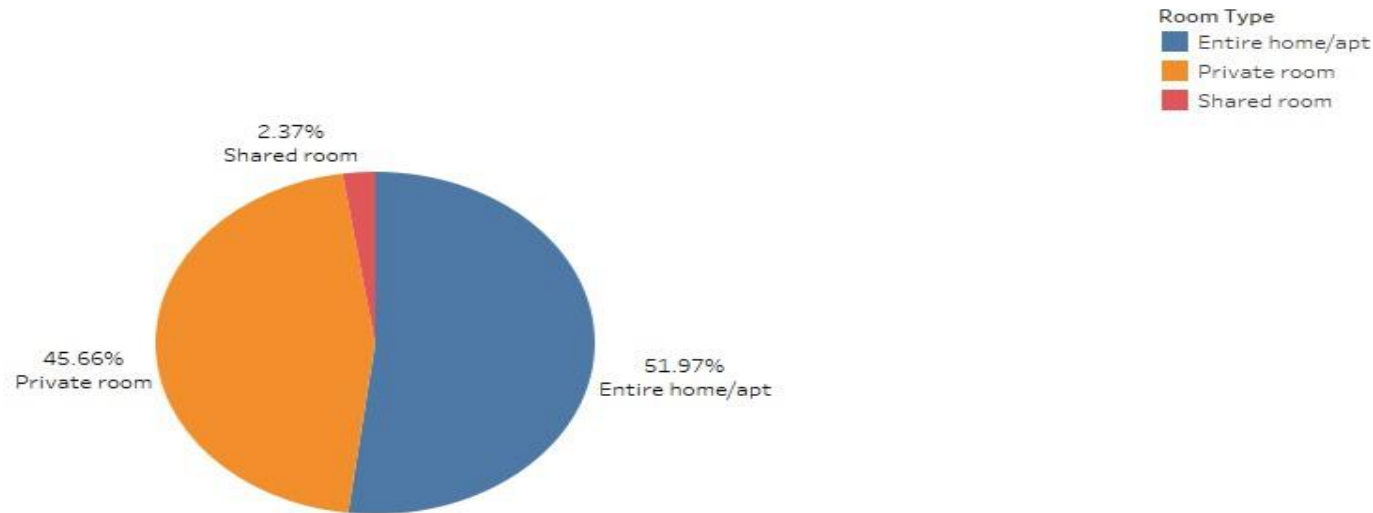
- Understand the customer booking trend

Key Insights

▶ To understand some important insights we have explored the following questions:

▶ How are the Airbnb listings spread out in NYC

▶ What type of rooms do customers prefer

▶ What could be the ideal number of minimum nights to increase customer

▶ bookings

▶ Based on customer review:

▶ Most preferred neighbourhood

▶ Most preferred room type

▶ Who are the Hosts who have the highest listings w.r.t. Neighbourhood

AirBnb Listing distribution in NYC
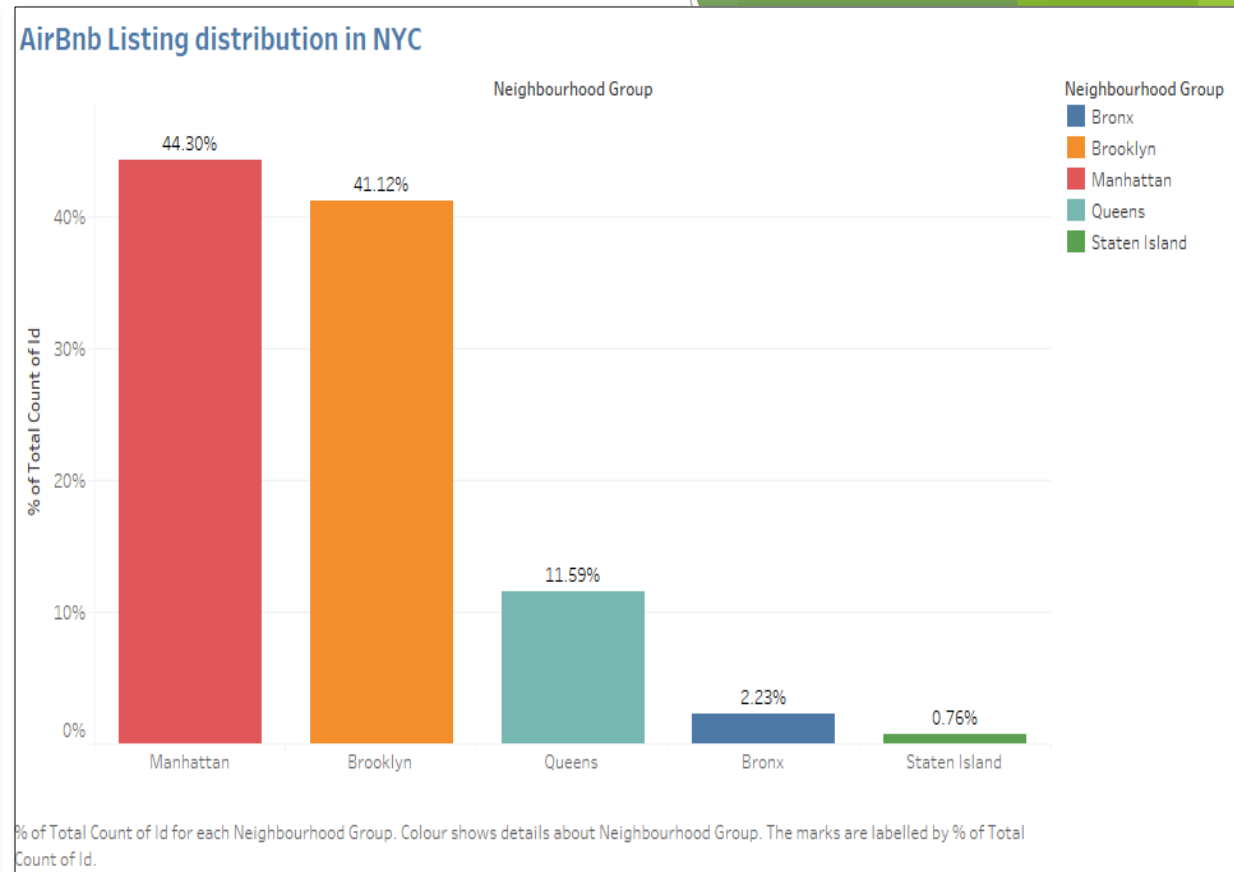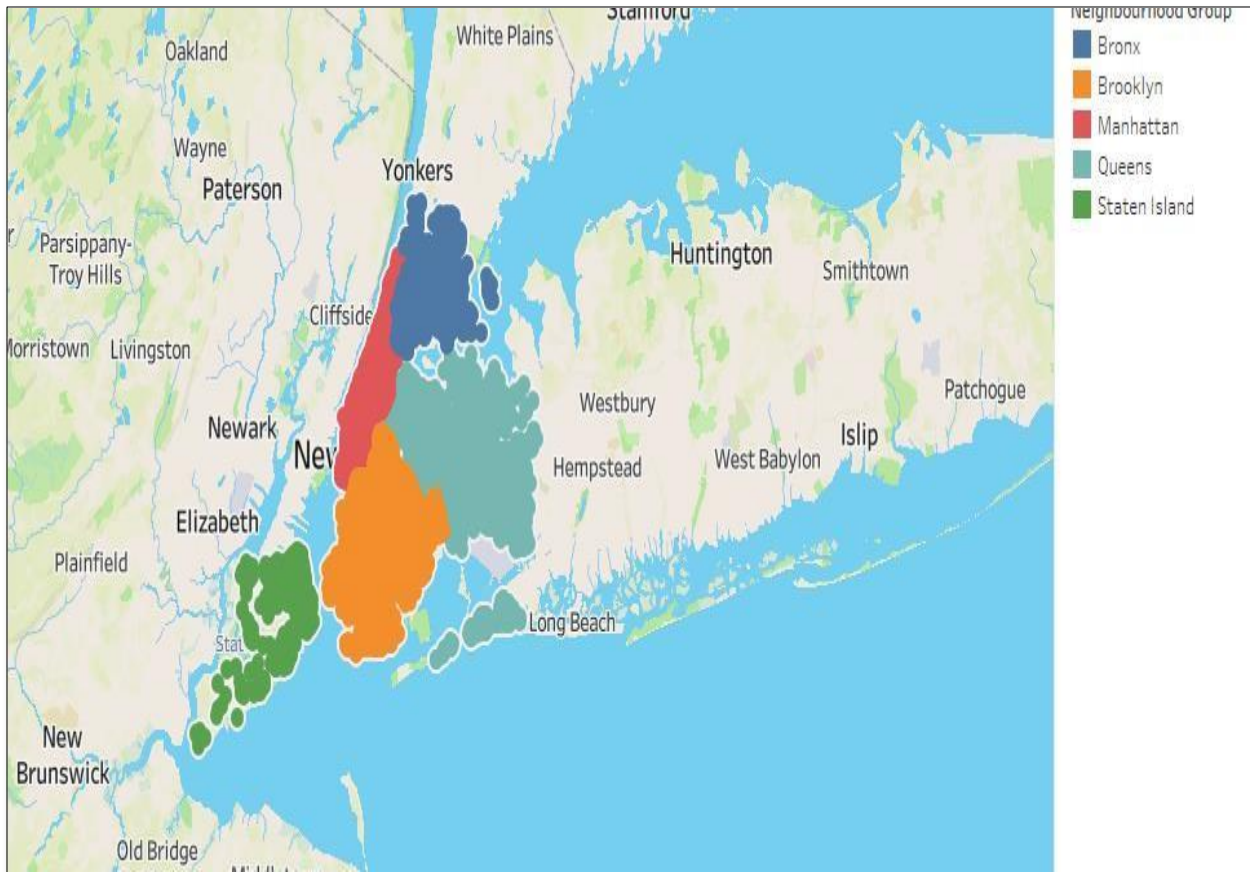
- ▶ Airbnb has good presence in Manhattan, Brooklyn & Queens.
- ▶ Listings are maximum in Manhattan (44%) & Brooklyn (41%) owing to the high population density and it being the financial and tourism hub of NYC. Staten Island (~1%) has the least number of listings, due to its low population density and very few tourism destinations.

Share of Each Room Type

Room Type
- Entire home/apt
- Private room
- Shared room

2.37%
Shared room

45.66%
Private room

51.97%
Entire home/apt

% of Total Count of Room TypeandRoom Type. Colour shows details about Room Type. The marks are labelled by % of Total Count of Room TypeandRoom Type.

▶ Three types of rooms - Entire home/Apartment, Private room & shared room.

▶ Overall, customers appear to prefer private rooms (45%) or entire homes (52%) in comparison to shared rooms (2.4%).

▶ Airbnb can promote shared room by providing discounts to increase bookings

Room Type Distribution in each Neighbourhood Group

% of Total Count of Room Type broken down by Neighbourhood Group. Colour shows details about Room Type. The marks are labelled by % of Total Count of Room Type.
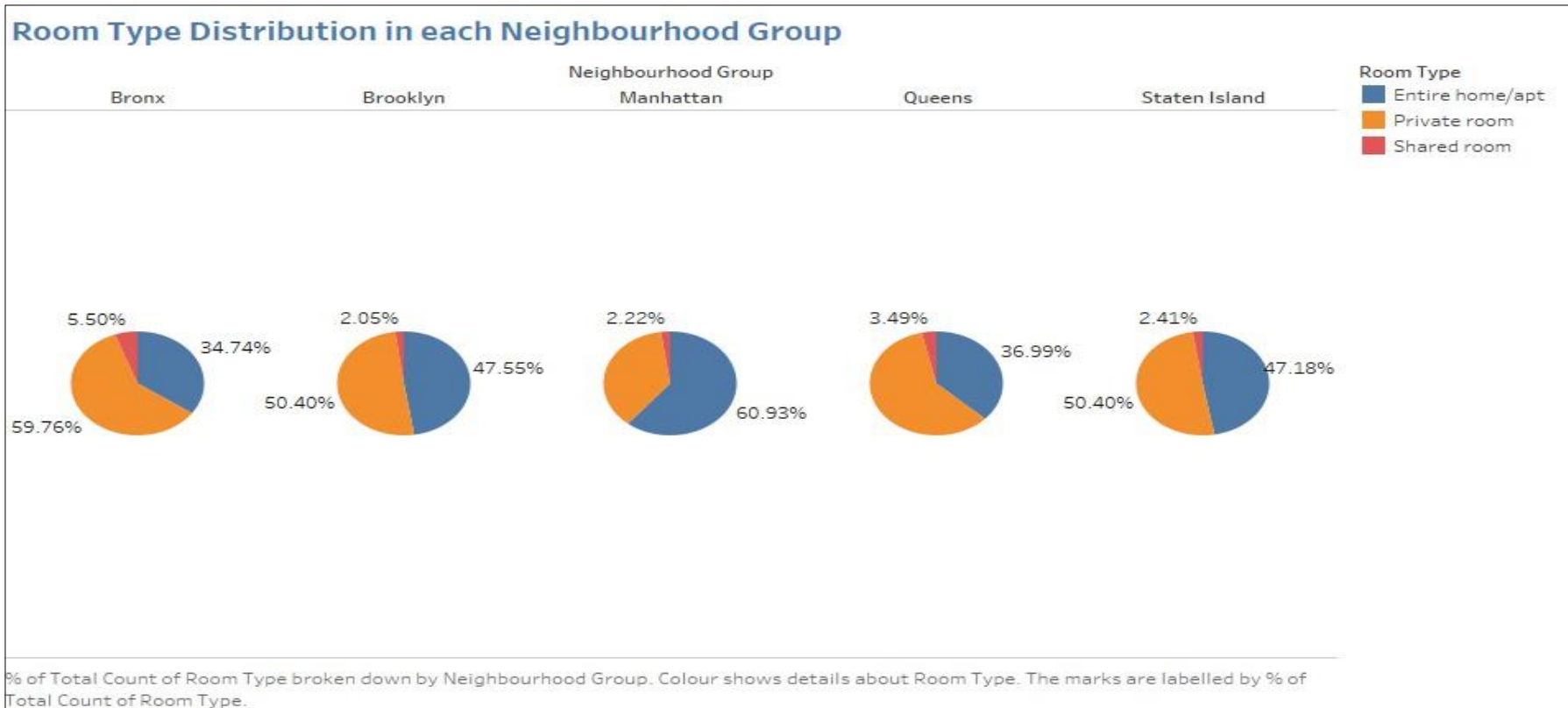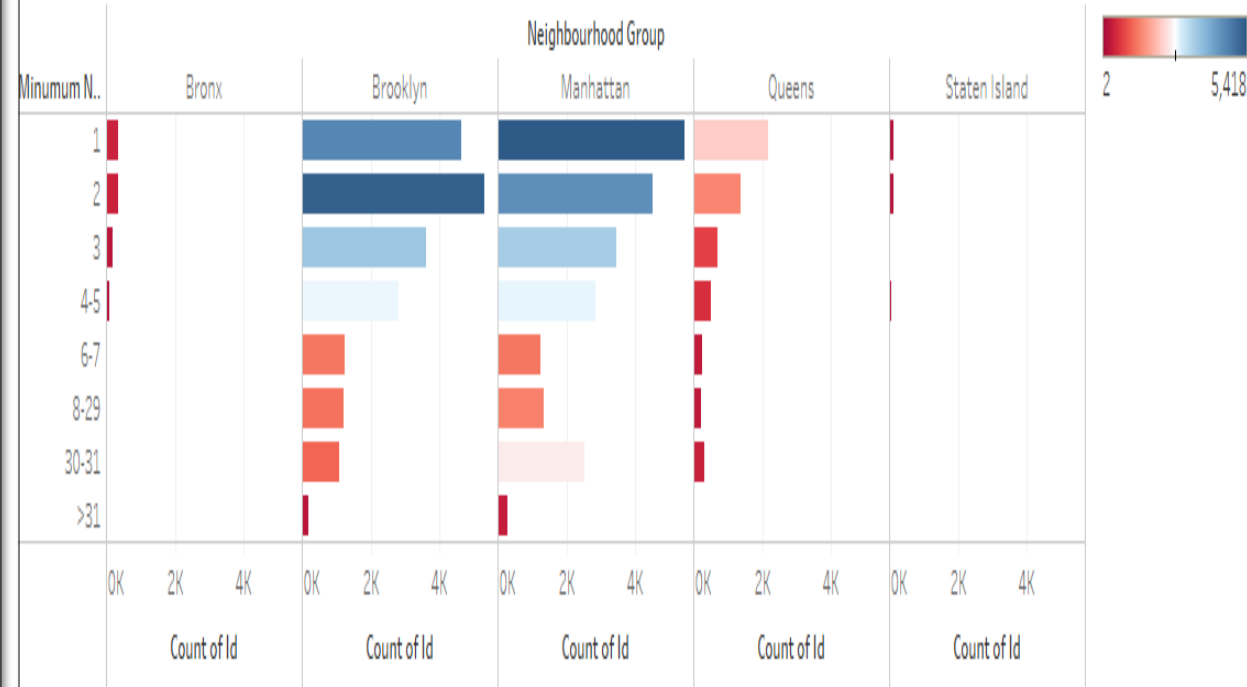
▶ Queens & Bronx contribute 60% each to private rooms, more than the combined ratio of 45%. Whereas, Manhattan has a higher contribution in entire home (61%), compared to the combined ratio of 52%.
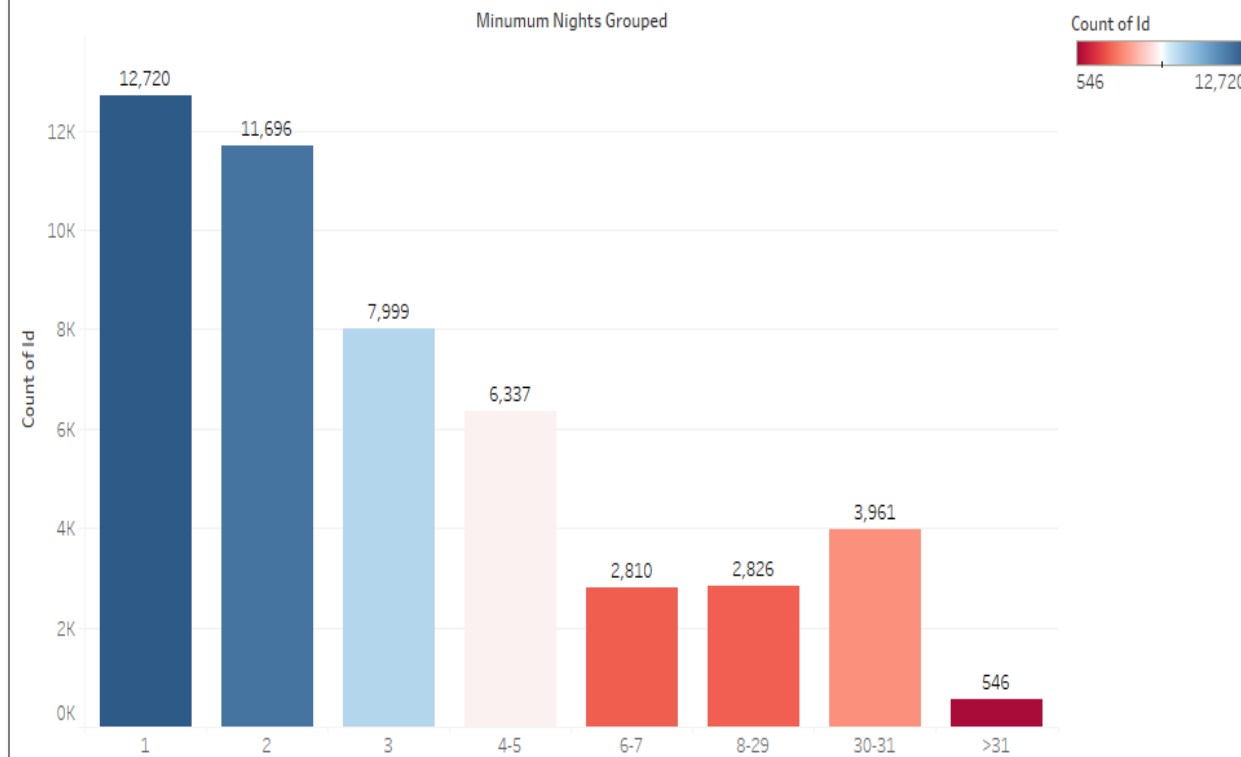
Customer Booking w.r.t Minimum Nights / Neighbourhood wise Customer Booking w.r.t Minimum Nights

▶ The listings with Minimum nights 1-6 have the most number of bookings. The listings with Minimum nights 1-6 have the most number of bookings.

▶ We can see a prominent spike in 30 days, this would be because customers would rent out on a monthly basis. After 30 days, we can also see small spikes at 60 & 90 days, this can also be explained by the monthly rent taking trend.

▶ Manhattan & Brooklyn have higher number of 30 day bookings compared to the others. The reason could be either tourists booking long stays or mid-level employees who opt for budget bookings due company visits.

Total Reviews w.r.t Neighbourhood Group
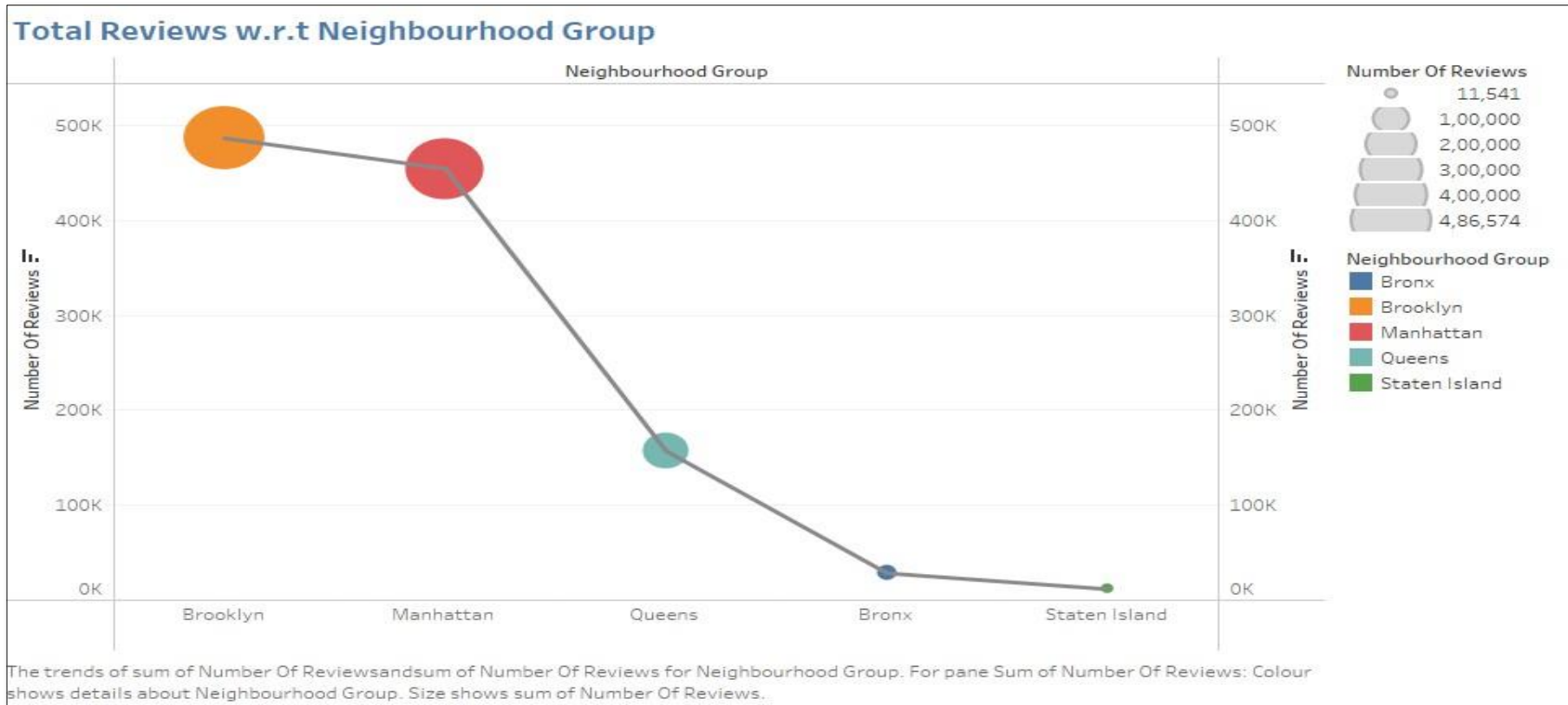
- In line with our earlier observation, we see the maximum reviews in listings for Manhattan & Brooklyn, implying that more bookings happen in these neighbourhoods.

- The higher number of customer reviews also imply higher satisfaction in these localities.

Total Reviews w.r.t Room Type
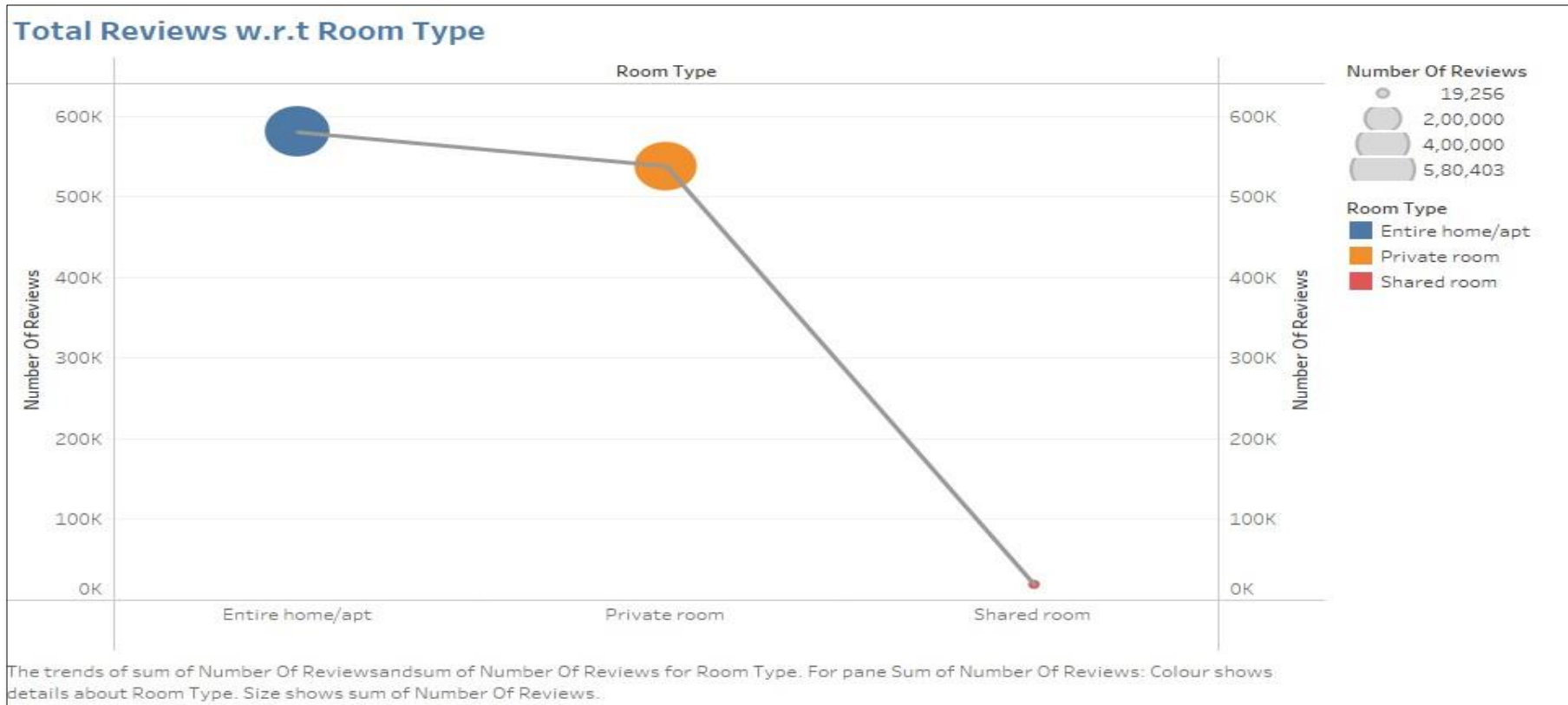
▶ Also, we see the maximum reviews in room types 'Entire home/apt' & 'Private rooms'. We can safely infer that, customers do not prefer 'Shared rooms'.

Hosts having Highest Listing wrt Neighbourhood
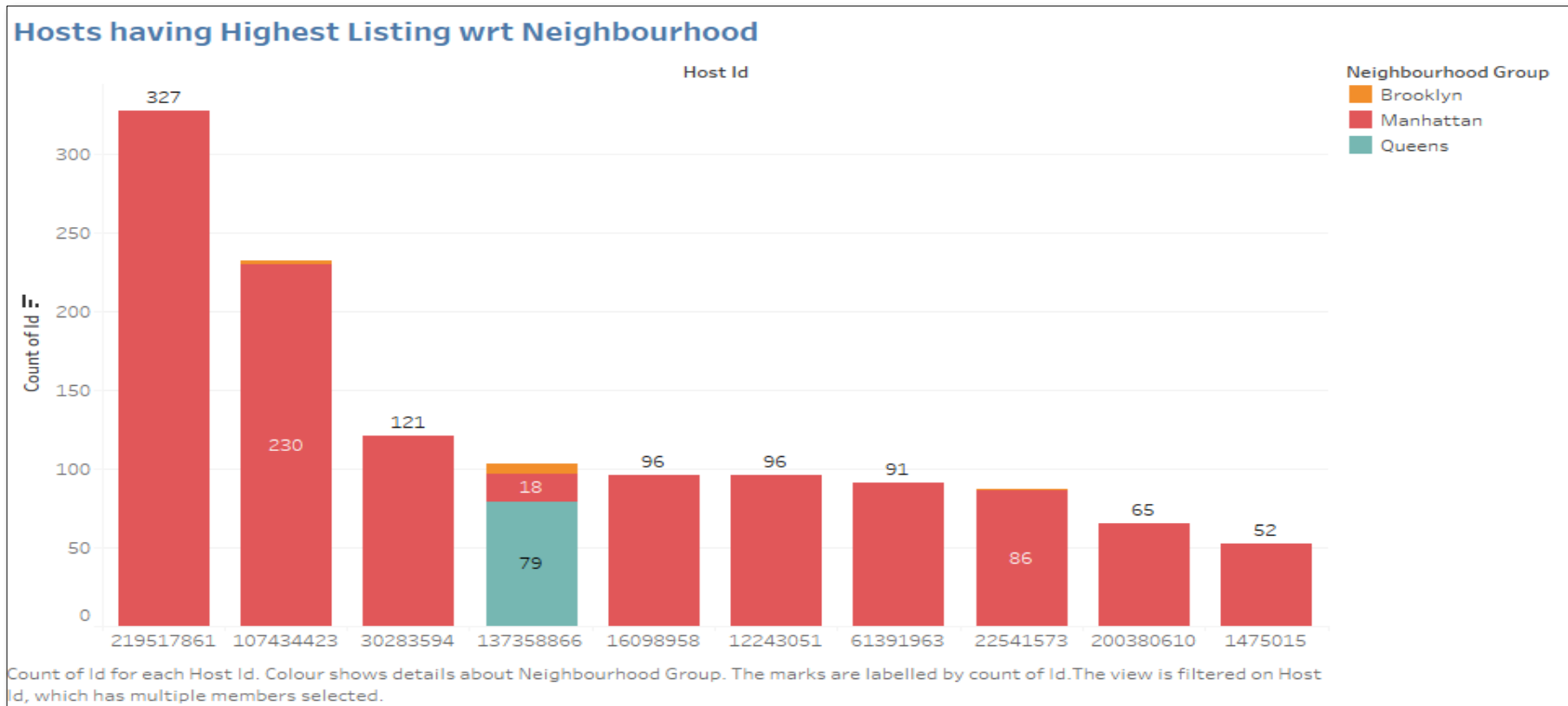
- More experienced hosts know the market better.

- We observe a single host having multiple listings mainly in the Manhattan area. This is because Manhattan has the highest influx of tourists and financial enthusiasts visiting the city all year round.

- This makes it more profitable for the host to acquire properties in the same area.

Appendix

About the data

▶ Provided with Airbnb New York City Listings Dataset till 2019 (48895 Rows * 16 Columns)

Column	Description
Id	Listing ID
Name	Name of Listing
Host_id	host ID
Host_name	Name of Host
Neighbourhood	Neighbourhood_group - Location
Neighborhood	Neighborhood - Area
Latitude & Longitude	Map co-ordinates
Room_type	Listing space type
Price	Price of listing
Minimum_nights	Amount of nights minimum
Number_of_reviews	number of reviews
Last_review	Lastest review
Reviews_per_month	number of reviews per month
Calculated_host_listings_count	no. of listings per host
Availability_365	no. of days when listing is available for booking

Appendix

Methodology

- The data was analysed through univariate and bivariate analysis.
- The analysis and visualizations were done using Tableau considering various parameters.
- The main parameters that have been taken into account for analysis are –
  - Geography based bookings
  - Bookings based on room type
  - Number of reviews
  - Minimum number of nights
- Inferences have been made keeping in mind the above parameters

Assumptions

As we are not aware about the nature of reviews, we have assumed that the properties which received higher number of reviews have a better customer liking.

Thank You!