

Storytelling Case Study: Airbnb, NYC

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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.

The different leaders at Airbnb want to understand some important insights based on various attributes in the dataset so as to increase the revenue.

As a data analyst at Airbnb, we would need to understand the past business (provided in a dataset) and provide suggestion to :

- Data Analysis Manager
- Lead Data analyst

Objective :

- ☐ Understand Airbnb pre-covid data from the dataset provided.
- ☐ Find various insights on the available properties and customer behaviour for NYC.
- ☐ Suggest some key insights for the post covid (after the restrictions post covid has been lifted)
- ☐ Help Airbnb to take decisions for the NYC Airbnb business.

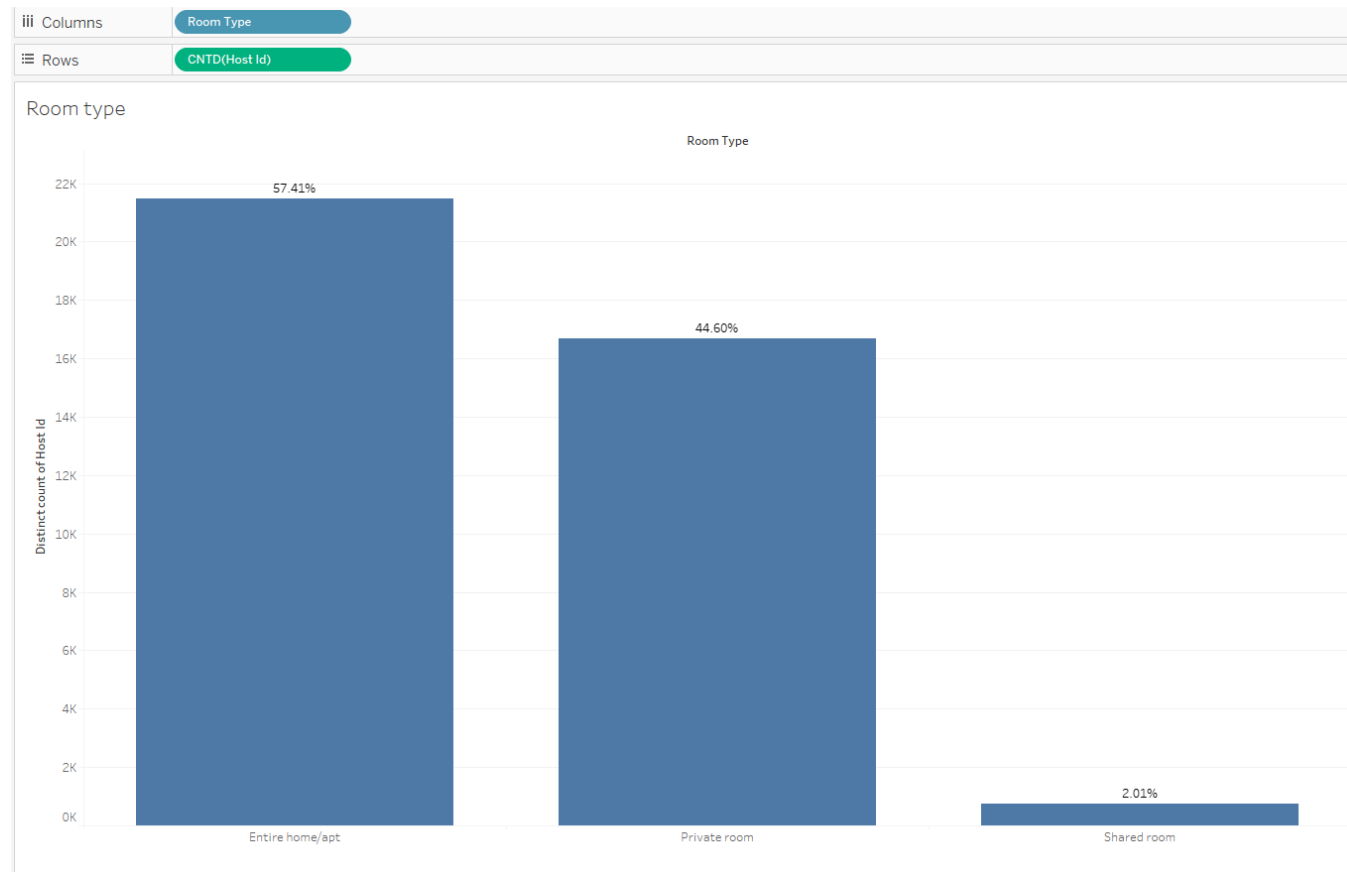
Data Cleaning and data preparation:

- ☐ Data analysis was done in python.
- ☐ Data was analysed for the NULL values. The columns which had <1% null values were deleted. And the columns which had 20% of Null values were assigned a specific value (made a subgroup for date and 0 for reviews)
- ☐ After the data cleaning, the data was exported to excel.
- ☐ The excel file was used in Tableau to analyse the data and find various insights from the data.

Type of analysis performed on Dataset:

- ☐ Univariate analysis on the different fields
- ☐ Bi-variate analysis of the data comparing different analysis.
- ☐ Multivariate analysis inform of heat maps.
- ☐ Analysis using Maps

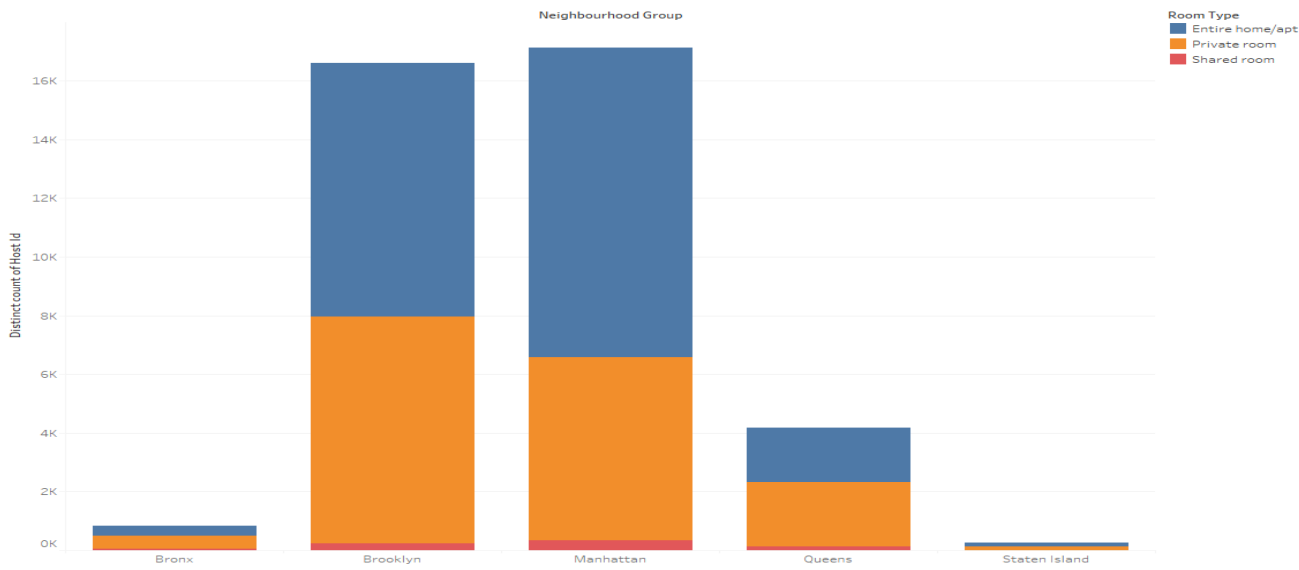
Customer preference on the room type:



- ❑ “Entire home/apt” and “Private rooms” remain the most preferred room types which constitutes of 98% of occupancy.
- ❑ Shared rooms are preferred less (just 2% of the total booking)

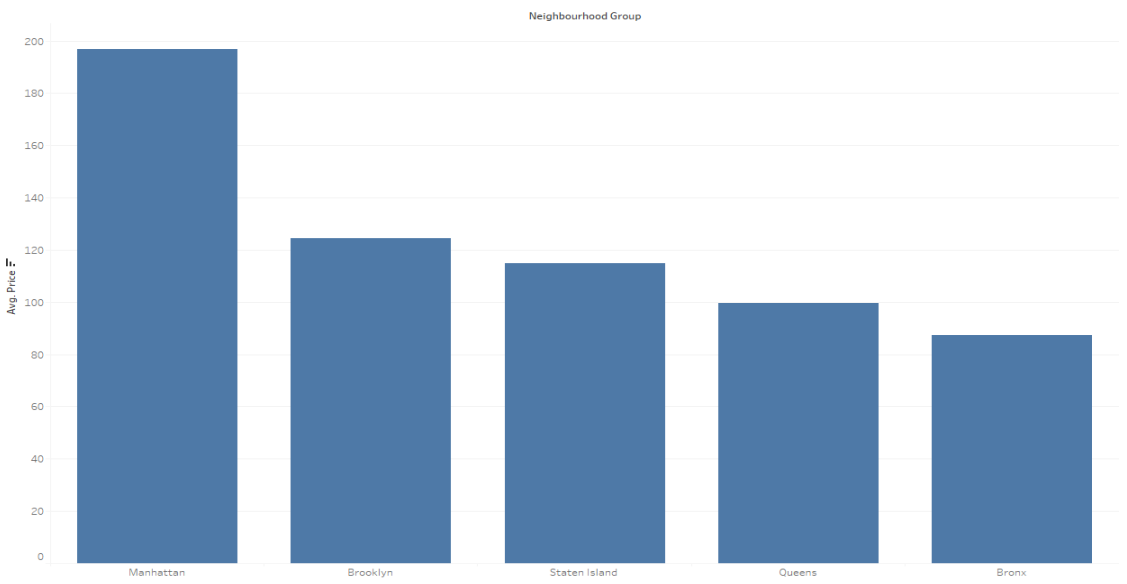
Customer preference on the room types based on locality:

Sheet 21



Distinct count of Host Id for each Neighbourhood Group. Colour shows details about Room Type.

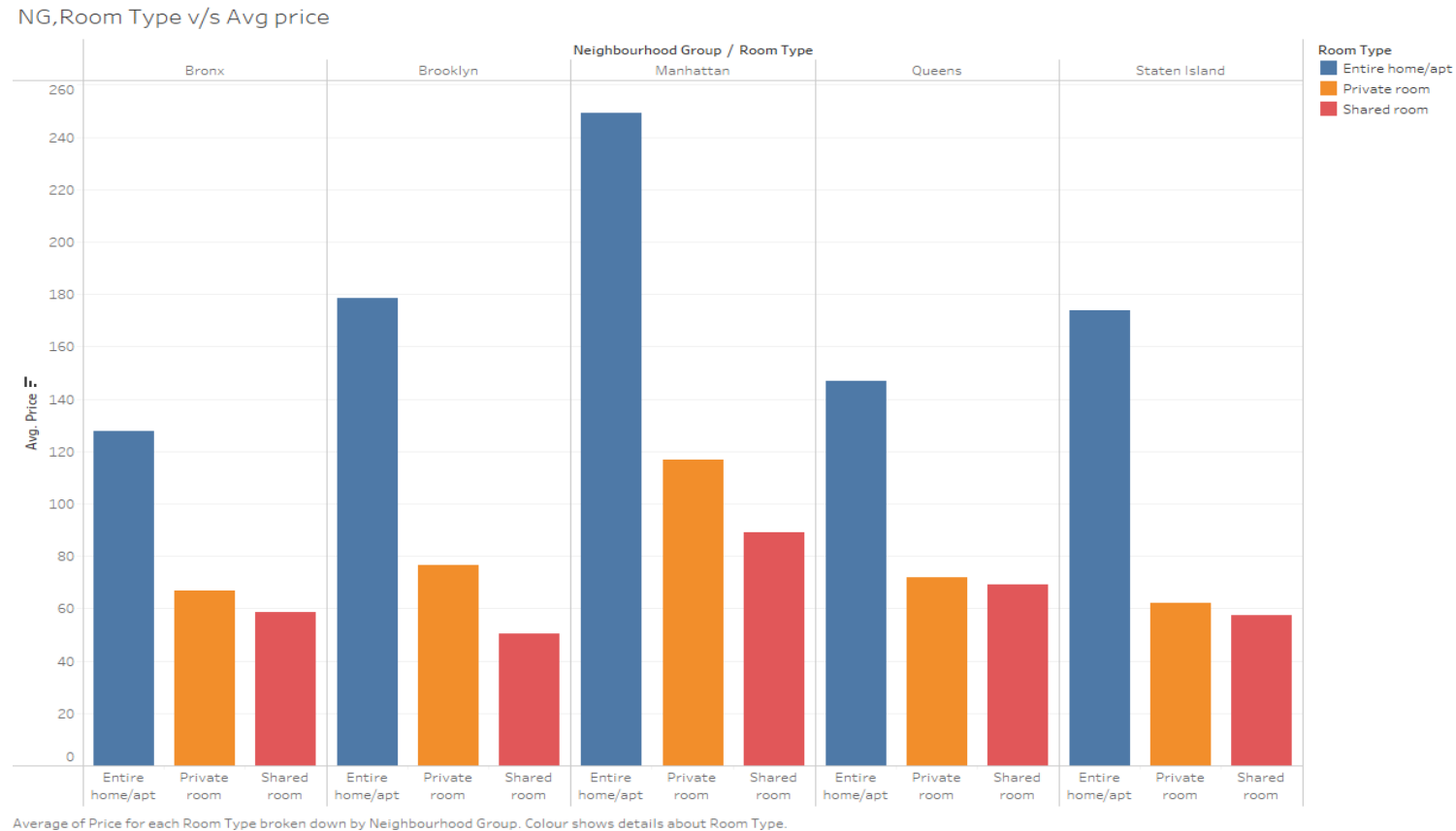
NG-Avg Price



Average of Price for each Neighbourhood Group.

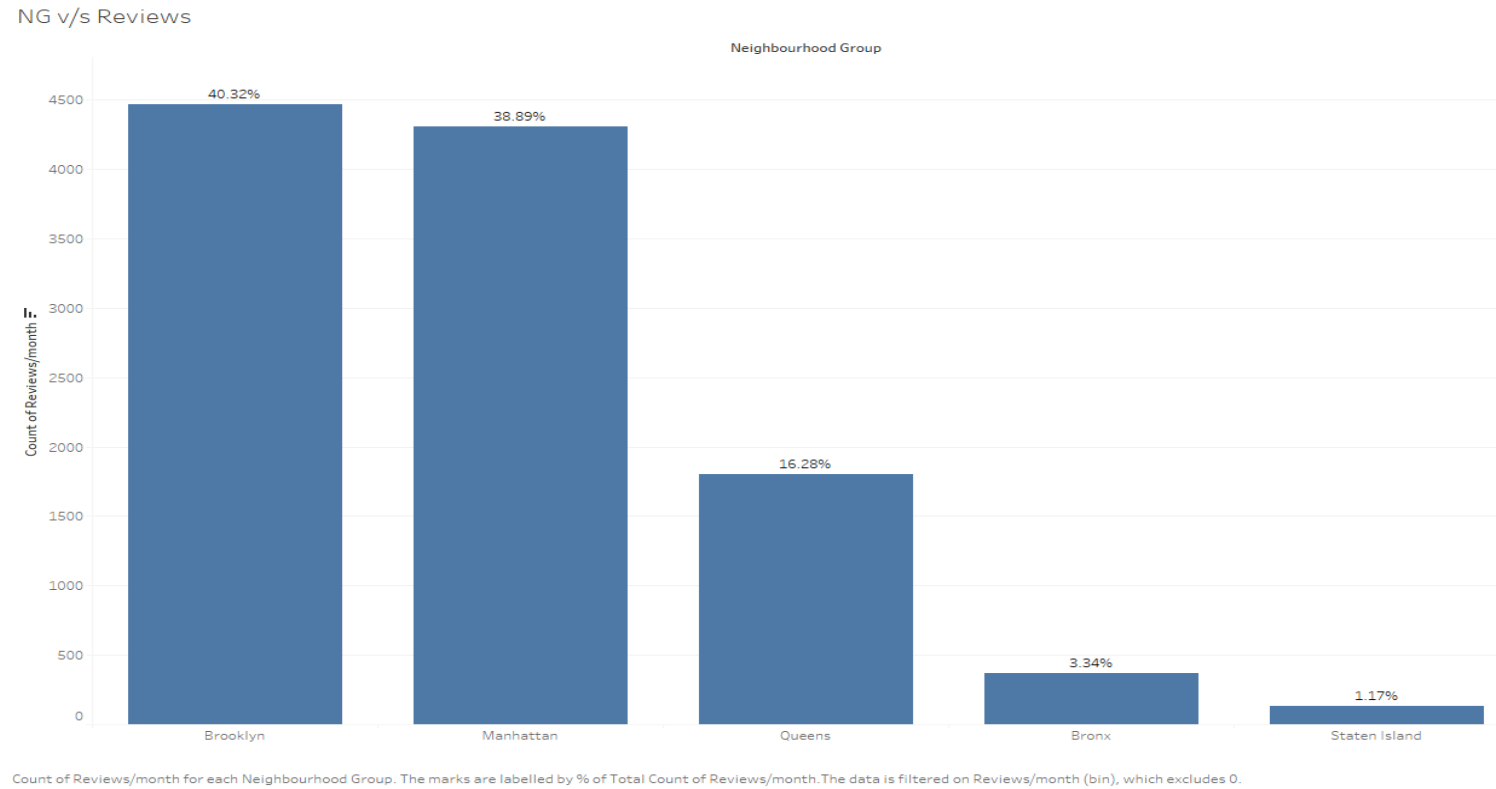
- ❑ Manhattan has the highest average price for all types of room types.
- ❑ Entire home and Private rooms are most frequently booked for all regions.
- ❑ The average prices of the properties are least in Bronx.

Average prices of room types based on locality:



- ❑ All types of room prices are higher in Manhattan as compared to other prices.
- ❑ Entire home/apt has the highest price followed by Private room and then Shared room.
- ❑ Staten Island & Queens has almost the similar prices for Private room and shared room.

Customer preference based on reviews:



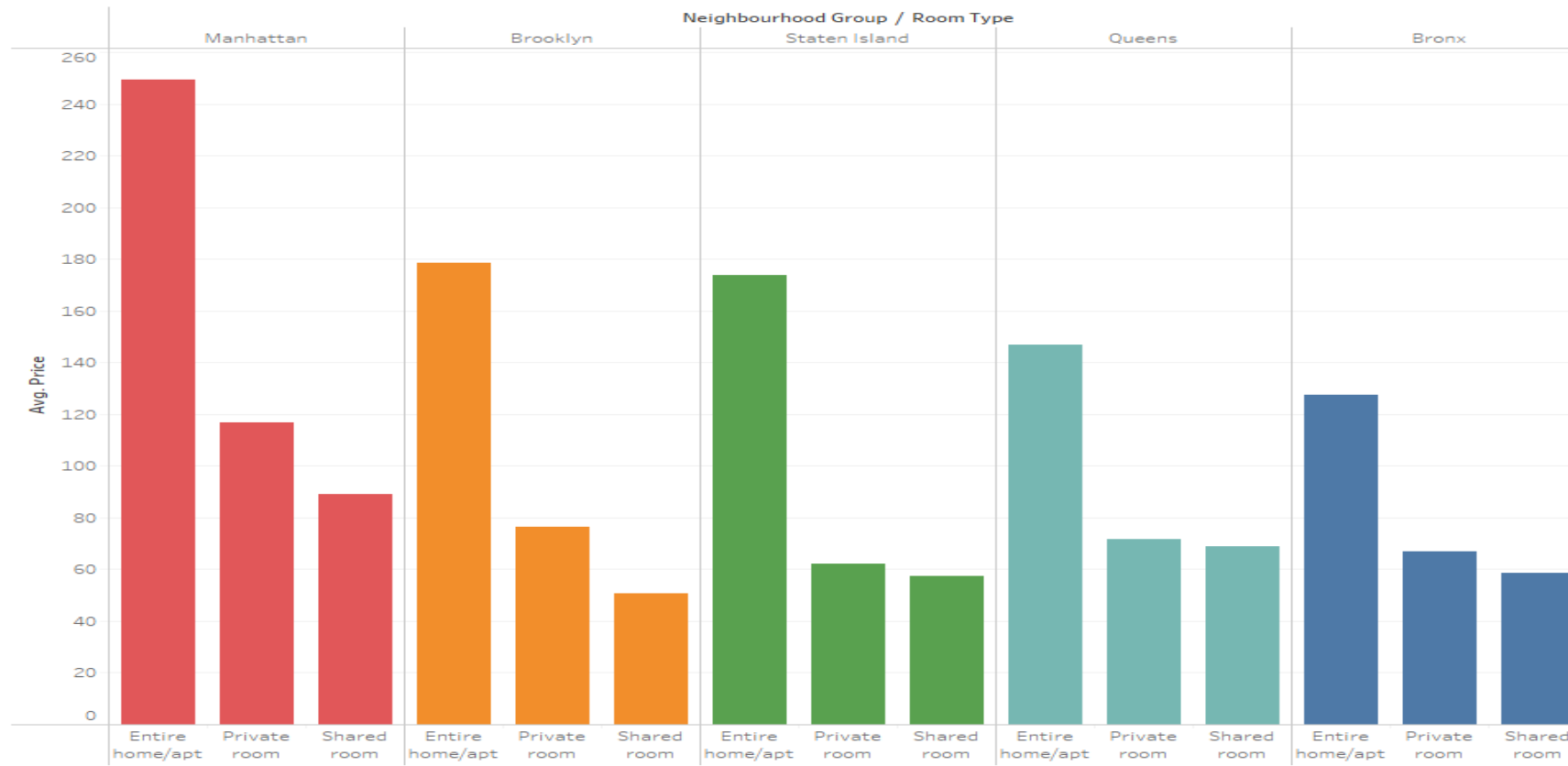
- ❑ We consider each reviews as positive reviews.
- ❑ Brooklyn and Manhattan are the most preferred (almost 80% of customers) location for stay.
- ❑ Bronx and Staten island are not preferred by customers. This just counts for just 4.5%.

Customer preference based on minimum nights availability:



- ❑ Based on the customer reviews, Brooklyn with 75 and 150 nights are the most preferred properties.
- ❑ After that Manhattan with 75, 150, 225 and 300 nights are the preferred ones.

Room type +NG v/s Avg.Price (2)



- ❑ Based on the analysis of room type , neighbourhood group and average price, we could see that the average price of Private room and shared rooms are almost same in Staten Island and Queens even though the facilities are quite different.
This may lead to customers opting less for shared rooms in those areas. Hence there needs a regulation of price for the shared rooms so that people would start preferring more.

Appendix :

The document attached below showcase the process undertaken to arrive the final data and the analysis done for various cases.



Process
Document

THANK YOU !!