



Storytelling Case Study: Airbnb, NYC

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Objective:

- ▶ Airbnb is an online platform using which people can rent their unused accommodations.
- ▶ During the covid time, Airbnb incurred a huge loss in revenue.
- ▶ People have now started travelling again and Airbnb is aiming to bring up the business again and is ready to provide services to customers.

Background

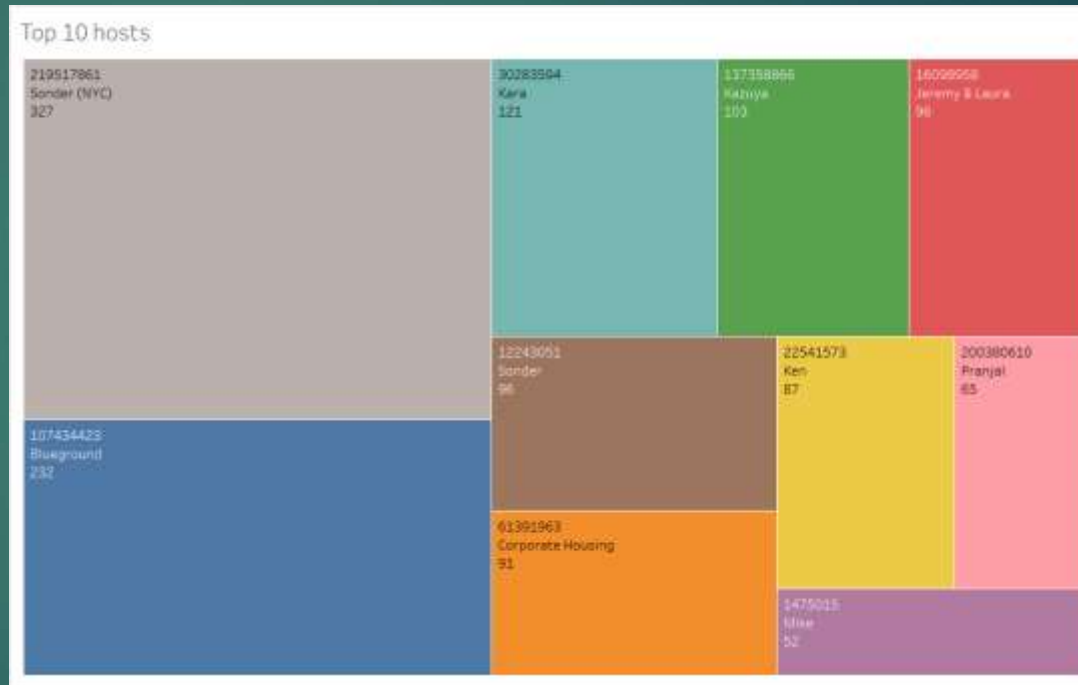
- ▶ For the past few months, Airbnb has seen a major decline in revenue.
- ▶ Now that the restrictions have started lifting and people have started to travel more, Airbnb wants to make sure that it is fully prepared for this change.
- ▶ So, analysis has been done on a dataset consisting of various Airbnb listings in New York.

Data Preparation /Methodology Used:

- ▶ Cleaned data to remove any missing values and duplicates.
- ▶ Dropped insignificant columns.
- ▶ Identified outliers

Top 10 Host

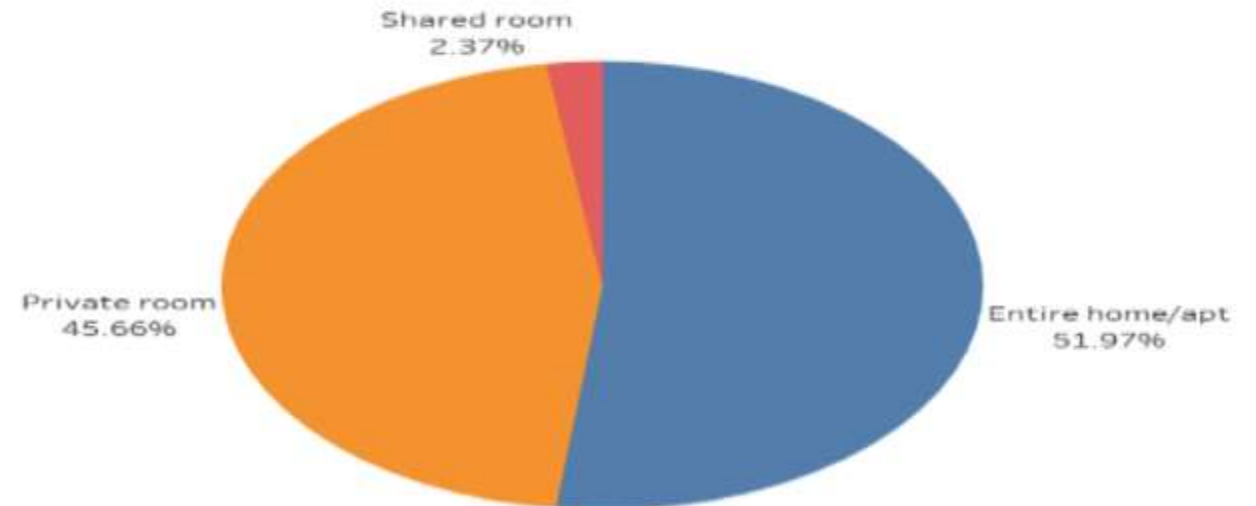
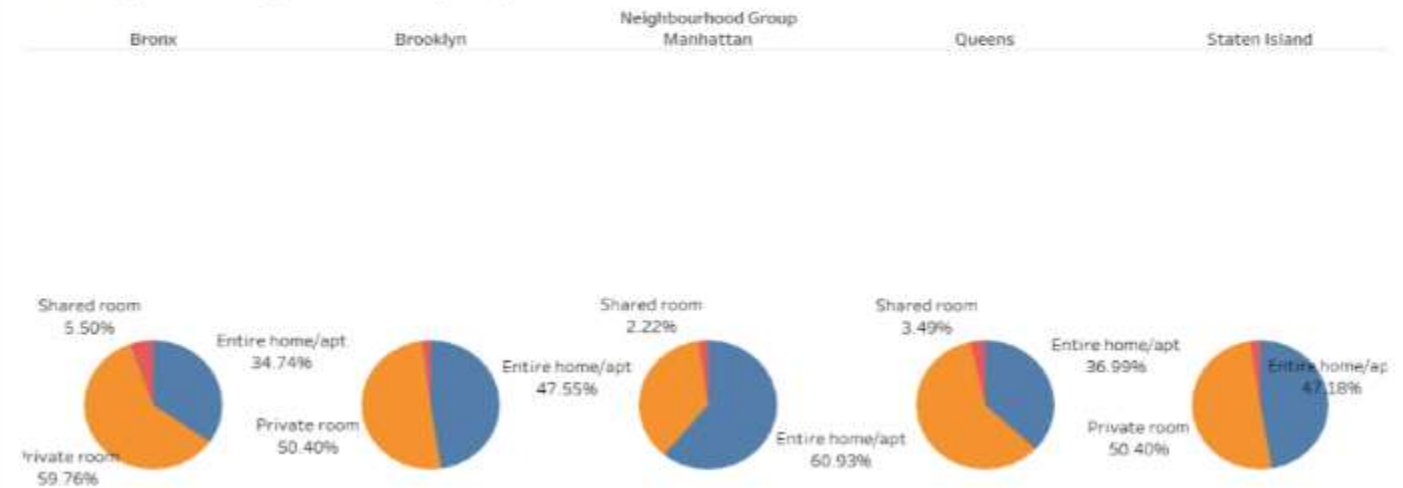
- Host Sonder (id 219517861), has been booked most number of times i.e. 327.
- Host Blue ground is the second popular host.
- Then there are other hosts like Kara, Ken, Pranjal, Jeremy and Mike that fall under top 10 hosts.



Room type with respect to Neighbourhood group

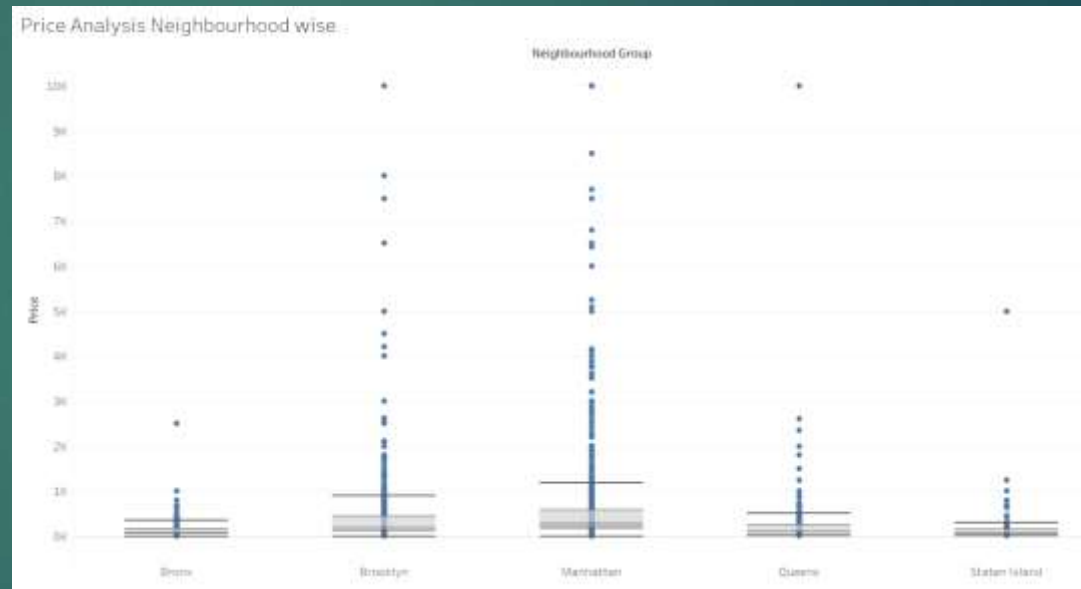
- There are three types of rooms - Entire home/Apartment, Private room & shared room.
- Overall, customers appear to prefer private rooms (45%) or entire homes (52%) in comparison to shared rooms (2.4%).
- Airbnb can concentrate on promoting shared rooms with discounts to increase bookings and also acquire more private listings.
- 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%.

Room Type wrt Neighbourhood group



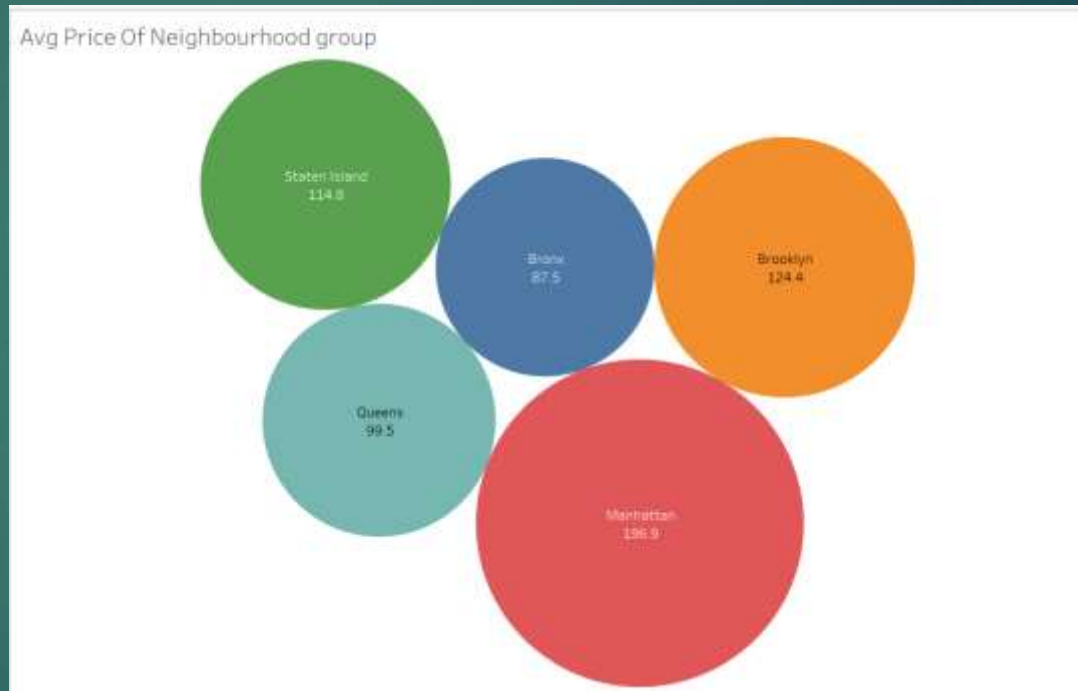
Price Analysis Neighbourhood wise

- Most of the outliers in Price column are for Brooklyn and Manhattan.
- Also, Manhattan has the highest range of prices for the listings.
- Bronx is the cheapest of them all.
- We can see the median price of all neighbourhood groups lying between \$ 80 to \$ 300.
- Price was highly positively skewed so median was very close the lower quartile with some outliers as seen in the boxplot below.



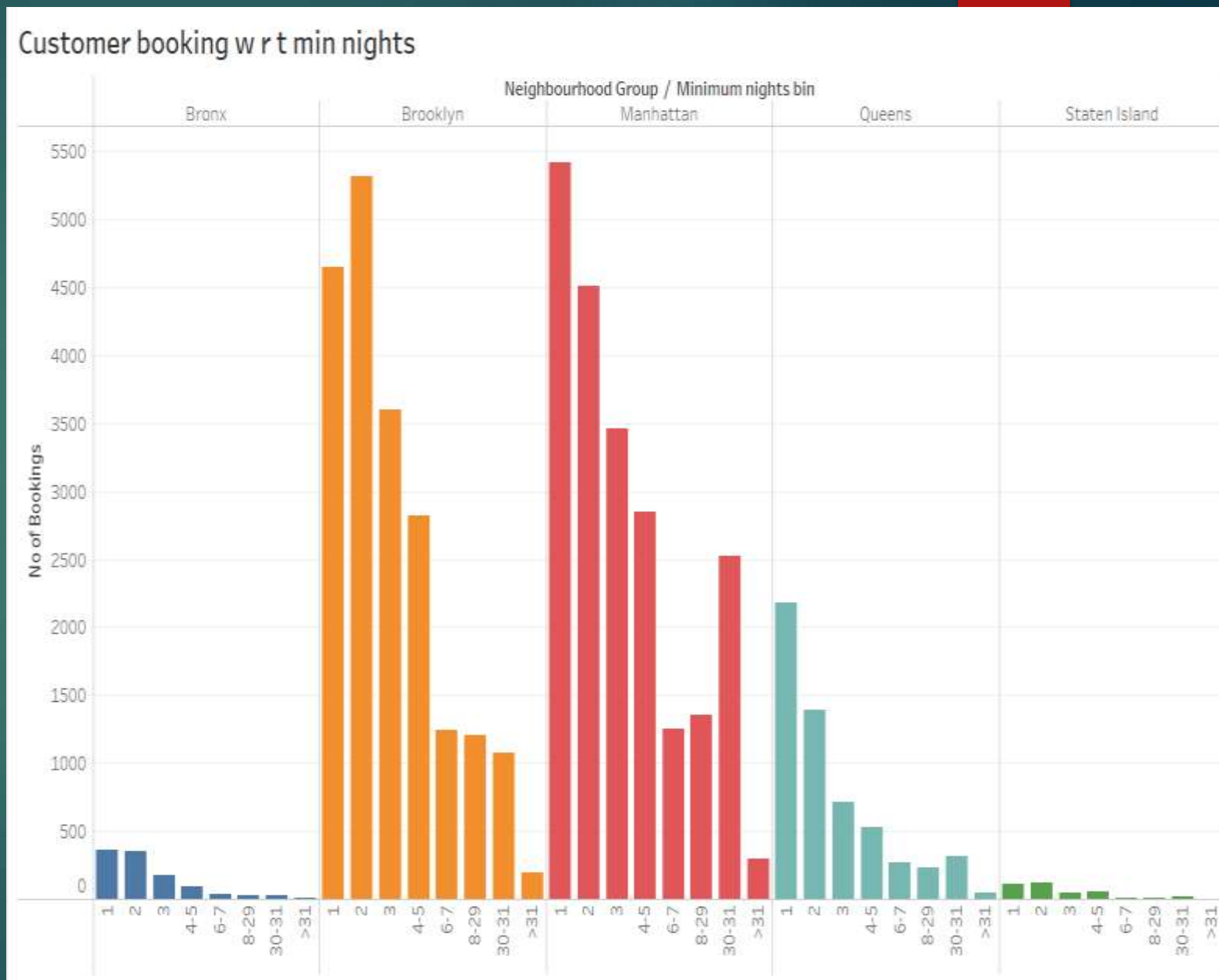
Average price of Neighbourhood groups

- The average price of listed properties in Manhattan is around 196.9, which is highest among all neighbourhoods.
- Average price for Brooklyn is second highest i.e. 124.4.
- Bronx appears to be an affordable neighbourhood as the average price is almost half than Manhattan's average price.



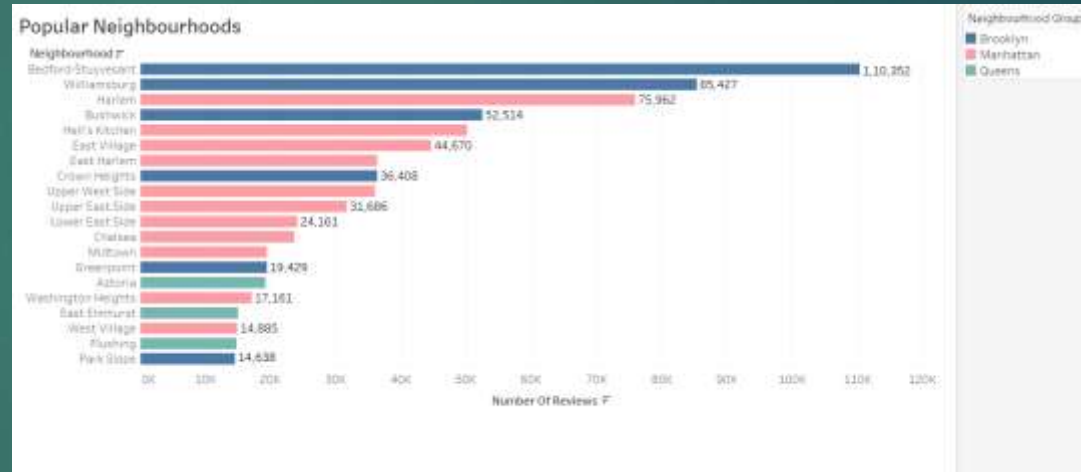
Customer Booking with respect to minimum nights

- The listings with Minimum nights 1-5 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, this can also be explained by the monthly rent taking trend.
- Manhattan & Queens 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



Popular Neighborhoods

- We see that Bedford-Stuyvesant from Brooklyn is the highest popular with 1,10,352 no of reviews in total followed by Williamsburg.
- Harlem from Manhattan got the highest no of reviews followed by Hell's kitchen.
- The higher number of customer reviews imply higher satisfaction in these localities.



Neighbourhood vs Availability

- Availability of Bedford is highest and its price is on the lower side. It is a good choice for customers.
- After Bedford, Harlem follows the same trend.
- Chelsea's availability low but it is costly.
- On the other hand, Williams's price is high and has average availability.

