

Airbnb Case Study

Objective and background

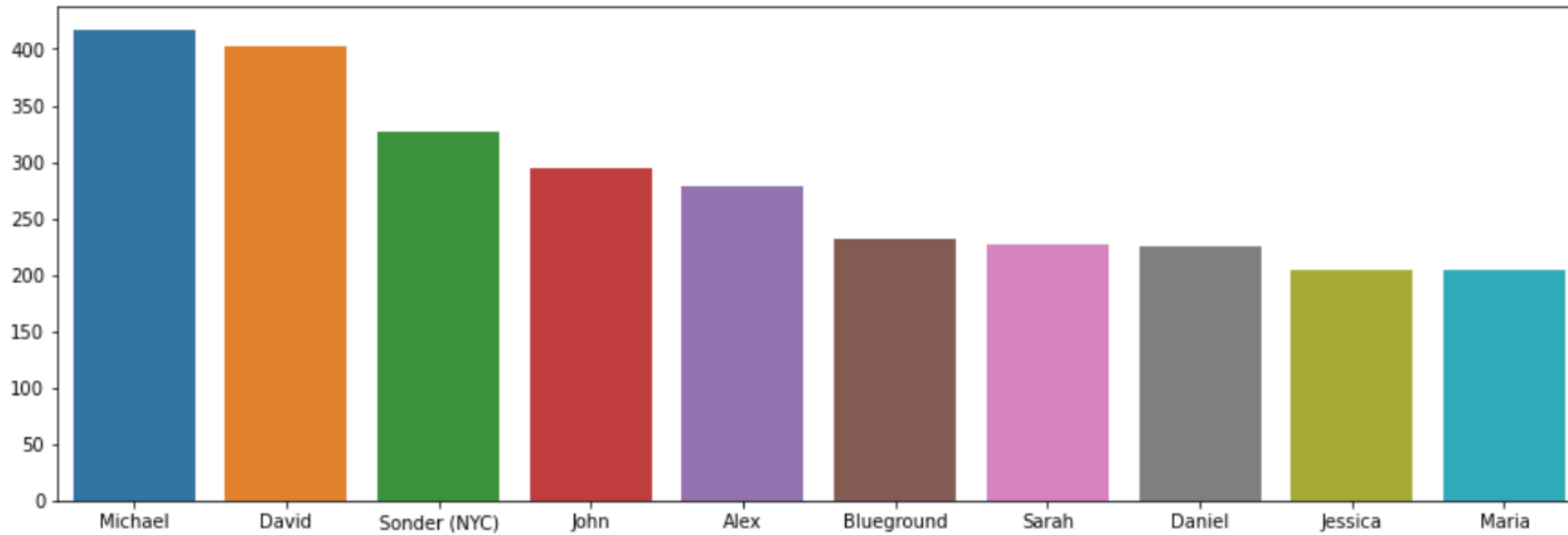
- ▶ Airbnb is an online platform using which people can rent their unused accommodations.
- ▶ During the covid time, Airbnb incurred a huge loss in revenue.
- ▶ People have now started travelling again and Airbnb is aiming to bring up the business again and is ready to provide services to customers.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

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

TOP 10 hosts

```
# Top 10 host's  
plt.figure(figsize=(15,5))  
sns.barplot(x = data.host_name.value_counts().index[:10] , y = data.host_name.value_counts().values[:10])  
plt.show()
```

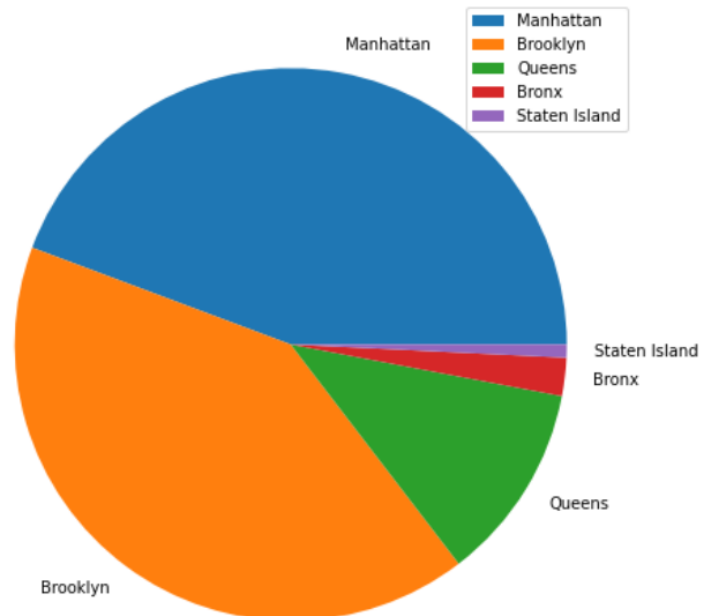


Room type with respect to Neighbourhood group

What are the neighbourhoods they need to target?

81 % of the listing are Manhattan and Brooklyn neighbourhood_group

```
: plt.figure(figsize=(8,8))
plt.pie(x = data.neighbourhood_group.value_counts(normalize=True) * 100, labels = data.neighbourhood_group.value_counts(normalize=True) * 100,
plt.legend()
plt.show()
```



```
data.neighbourhood_group.value_counts()
```

Manhattan 21661

Brooklyn 20104

Queens 5666

Bronx 1091

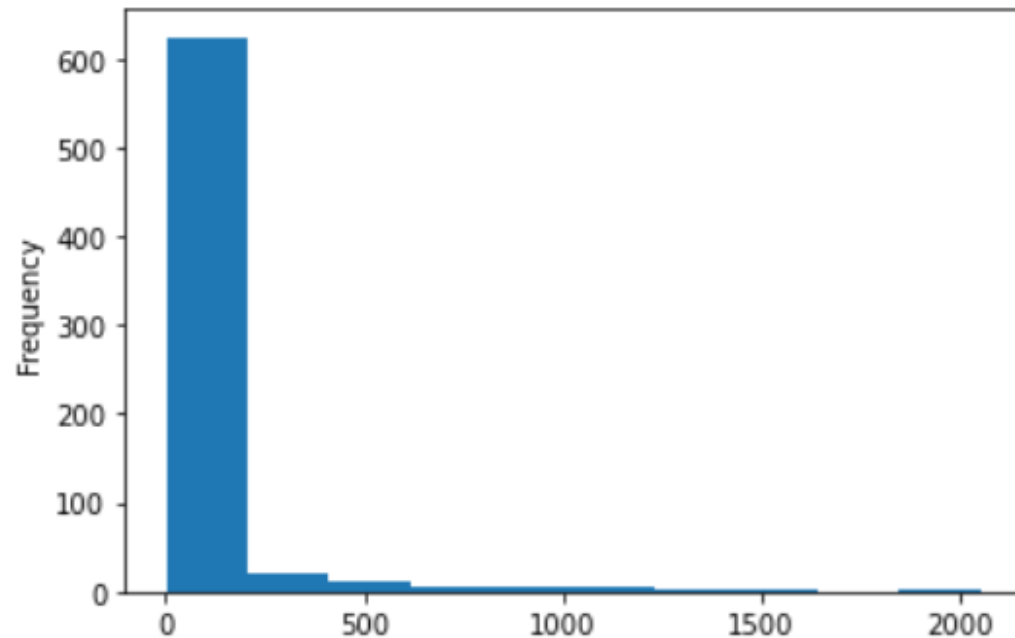
Staten Island 373

Name: neighbourhood_group, dtype: int64

Price Analysis Neighbourhood wise

```
data.price.value_counts().plot.hist()
```

```
<AxesSubplot:ylabel='Frequency'>
```



```
data.price.value_counts()
```

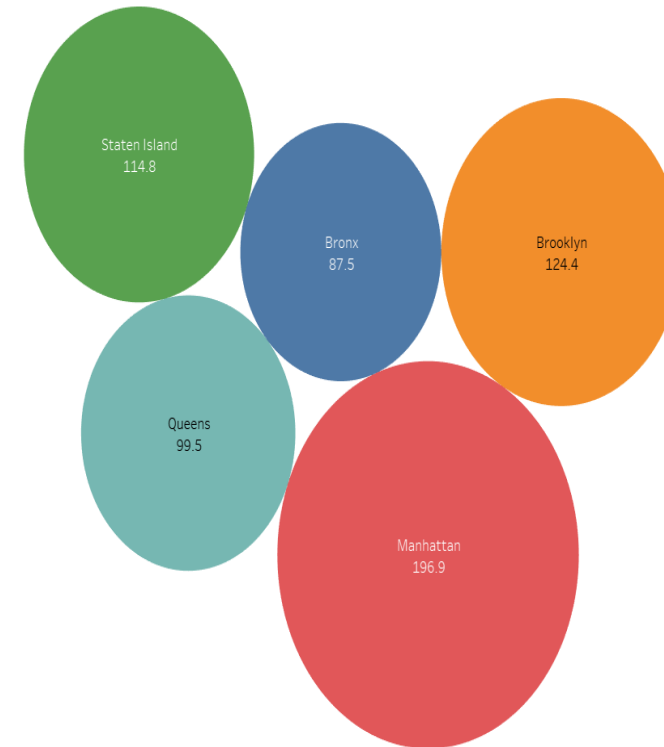
```
100    2051
150    2047
50     1534
60     1458
200    1401
...
780      1
386      1
888      1
483      1
338      1
```

```
Name: price, Length: 674, dtype: int64
```

Average price of Neighbourhood groups

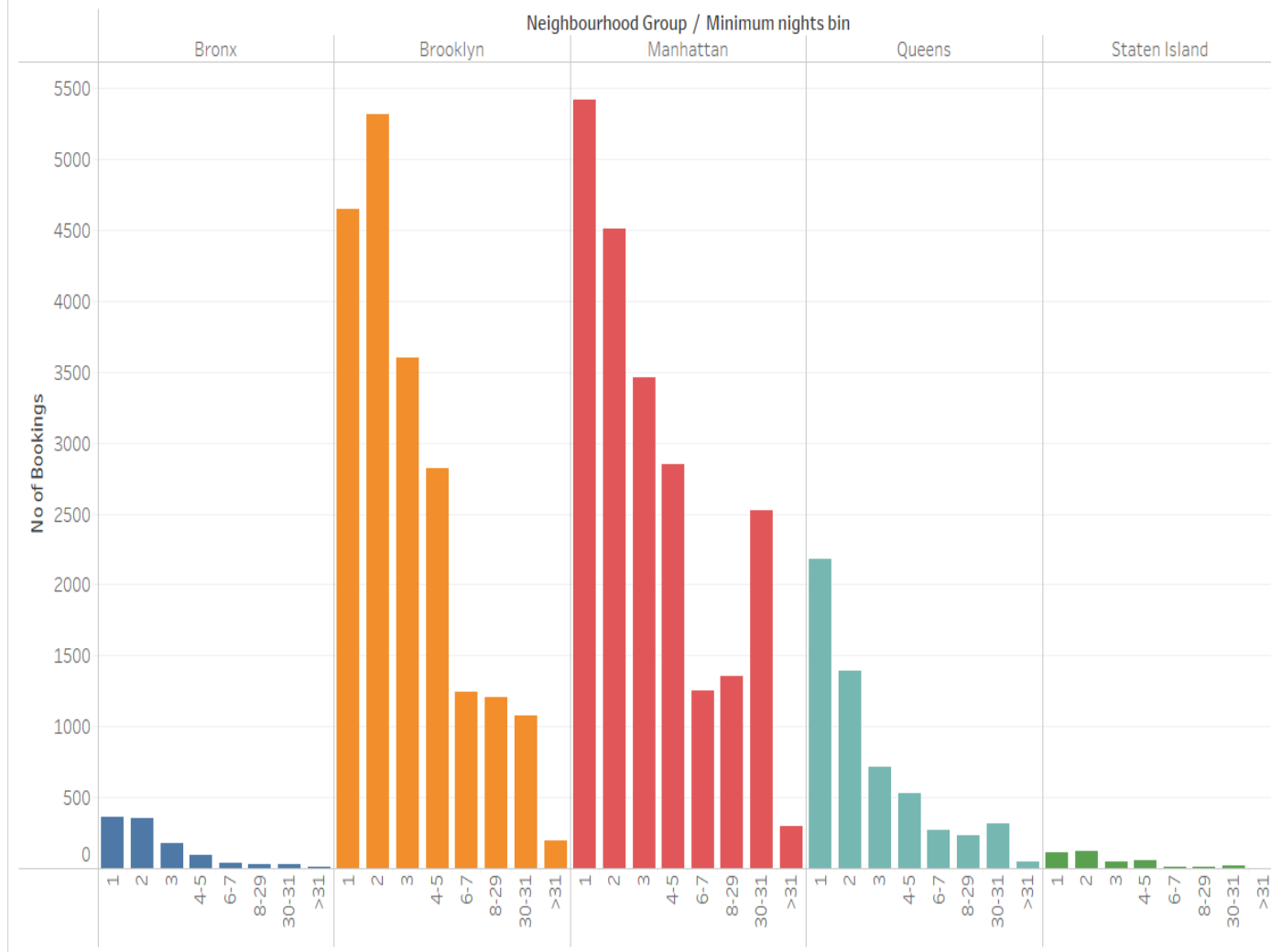
- The average price of listed properties in Manhattan is around 196.9, which is highest among all neighbourhoods.
- Average price for Brooklyn is second highest i.e. 124.4.
- Bronx appears to be an affordable neighbourhood as the average price is almost half than Manhattan's average price.

Avg Price Of Neighbourhood group



Customer Booking with respect to minimum nights

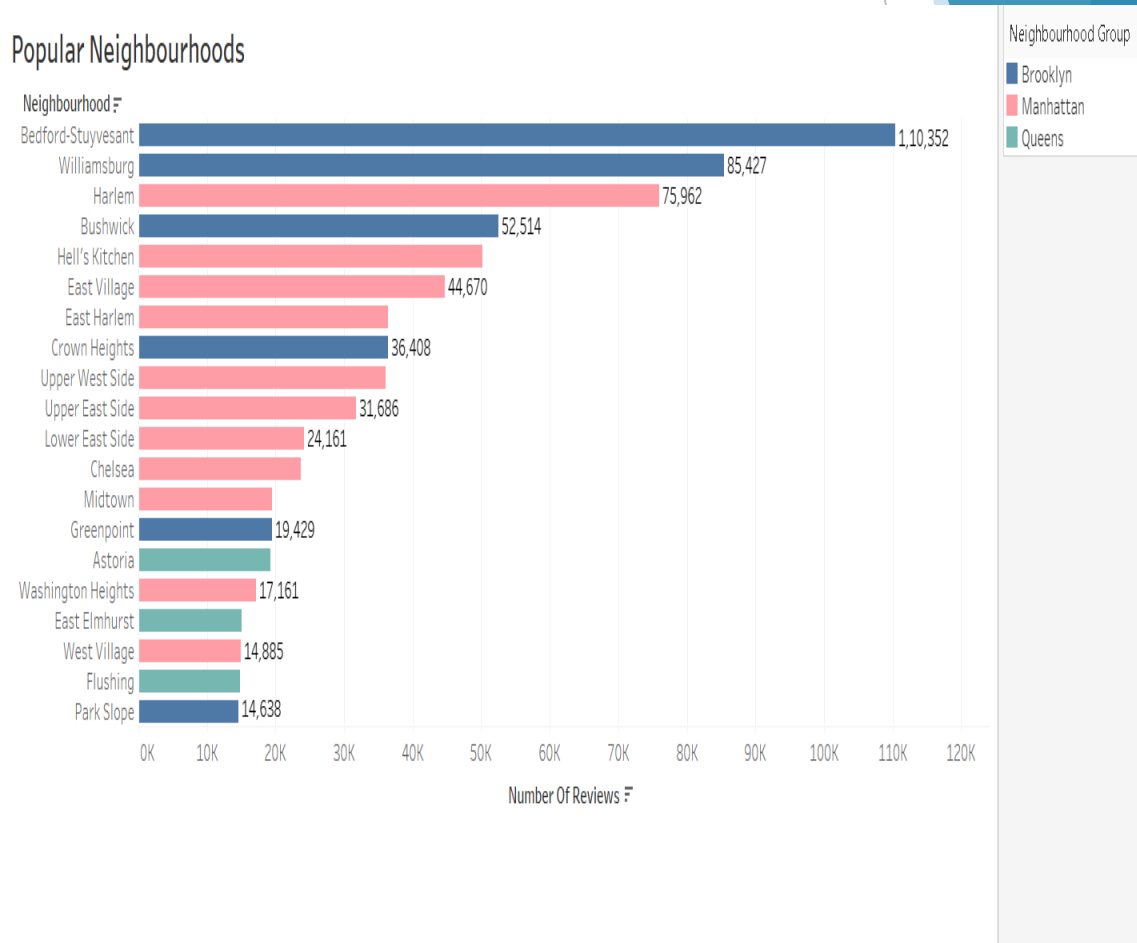
- The listings with Minimum nights 1-5 have the most number of bookings. We can see a prominent spike in 30 days, this would be because customers would rent out on a monthly basis.
- After 30 days, we can also see small spikes, this can also be explained by the monthly rent taking trend.
- Manhattan & 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.

Popular Neighbourhoods



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.

