Airbnb NYC Case study

To: Data Analysis Manager & Lead Data Analyst

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Agenda:

Objectives

Insights on Room type

Insights on pricing

Insights on Top performing Hotels

Insights on Underperforming Hotels

Insights on Top Hosts in Neighbourhood_group

Average price Vs Number of reviews

Recommendations

Appendix:

- **Data sources**
- **Methodology Document – in PDF**
- **Assumptions**

OBJECTIVES

- ► Improve our shared understanding about the existing and prospective hosts.

- ► Improve our shared understanding about impact of neighbourhood on Airbnb bookings.

- ► Improve our shared understanding about importance of affordable pricing.

- ► Identifying best performing Airbnb and optimizing revenue from them.

- ► Provide recommendations to our acquisitions, operations and UX teams to maximize number of bookings.

Distribution of rooms in NYC:

► Insights: There is a high demand of entire room/apt as compared to private rooms and shared rooms.

► There is a least preference to shared rooms.
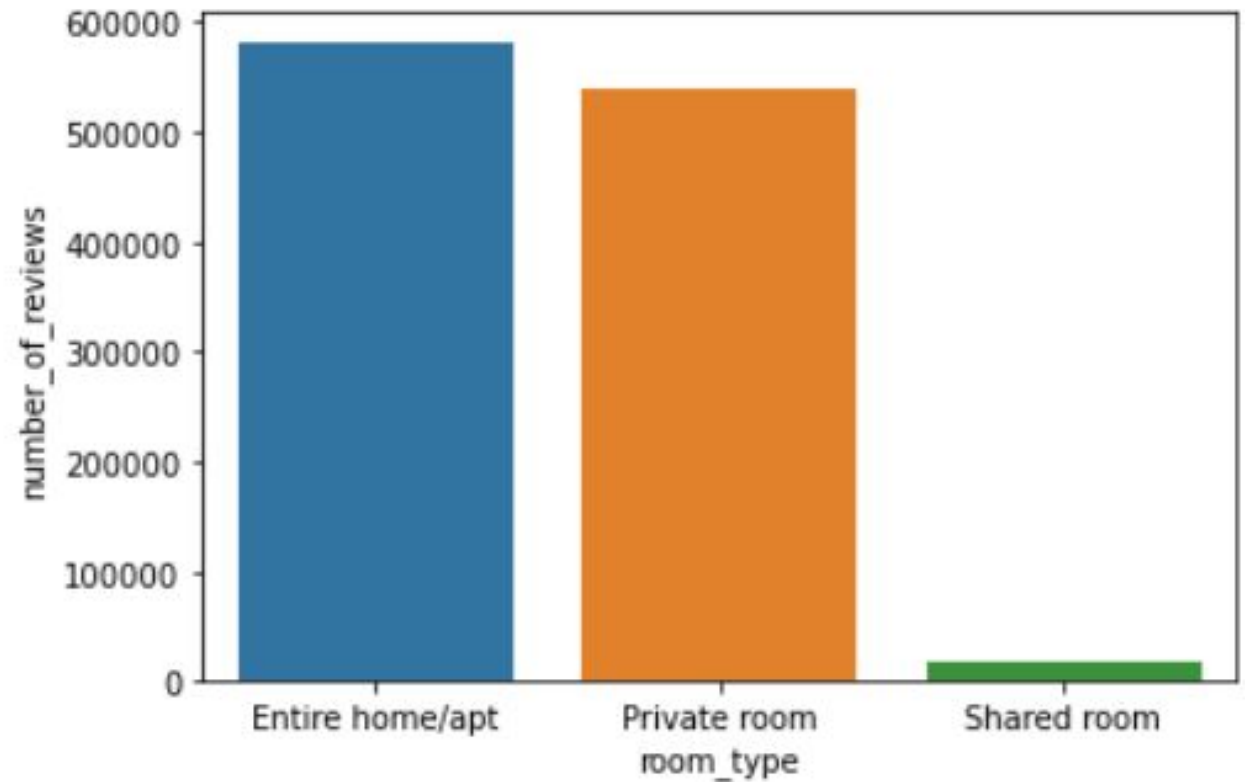
Distribution of prices in NYC:

► Insights: Manhattan have highest price distribution.

► Bronx have the lowest price distribution..

► The customers prefer low and medium price ranges for all the neighbourhood_group.

► Bronx have high number of low cost properties.

► Manhattan have high percentage of high cost properties.
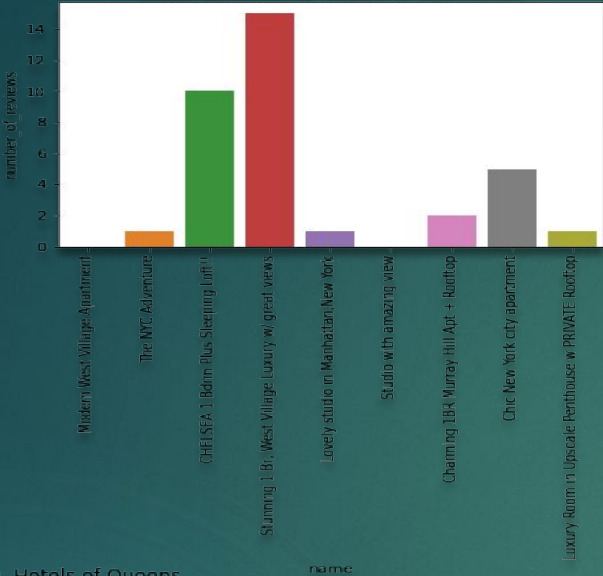
► Queens have higher percentage of low cost properties.
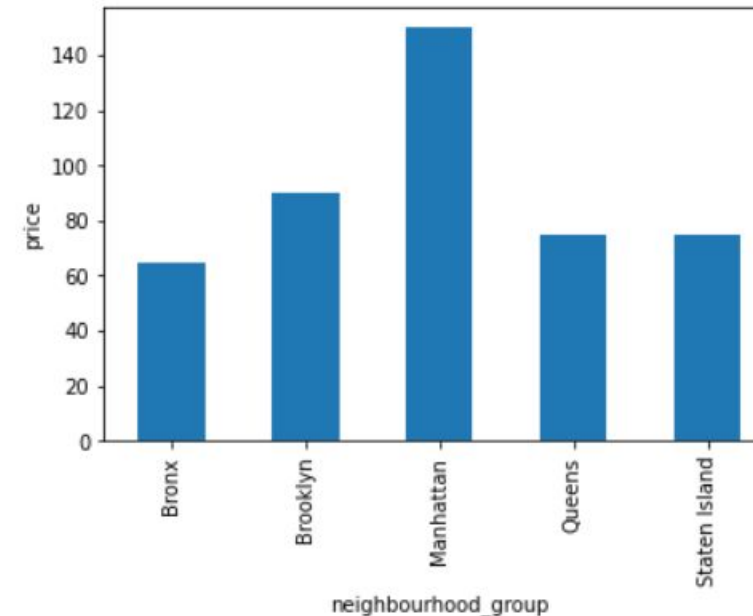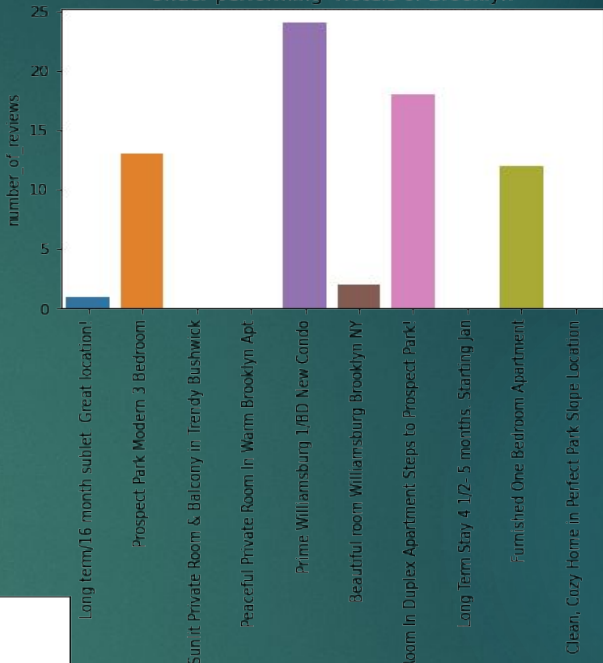
Top Rated Hotel in Neighbourhood_group
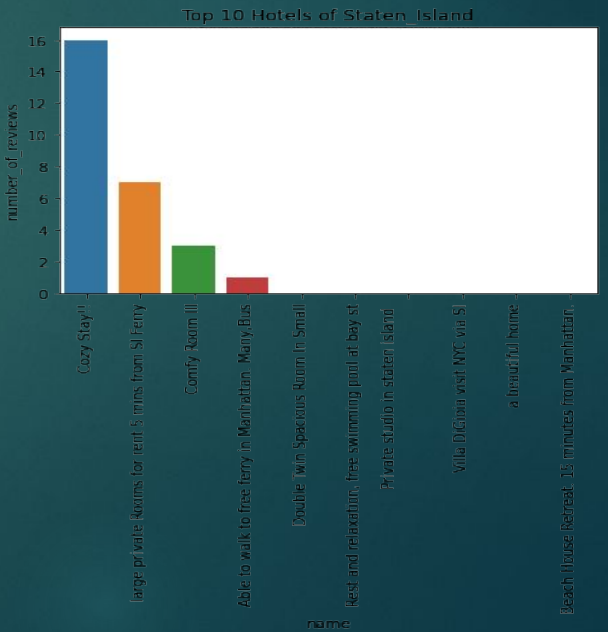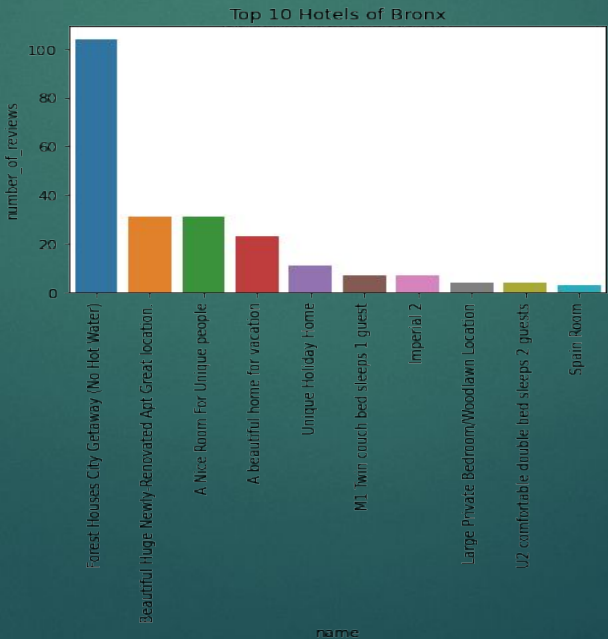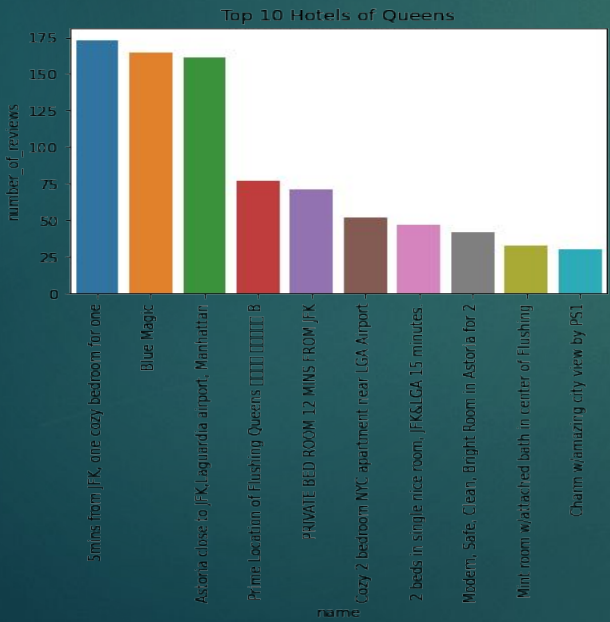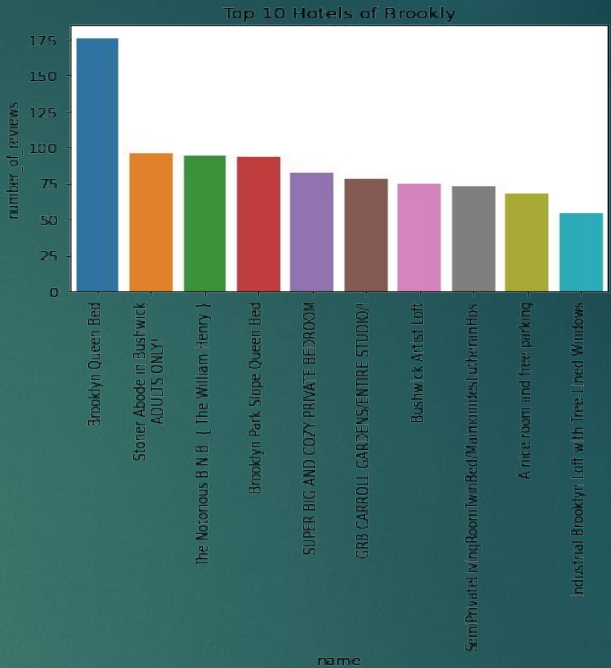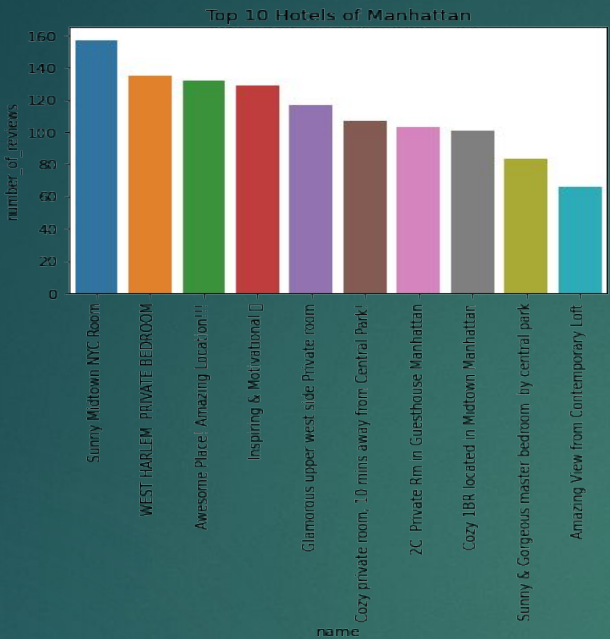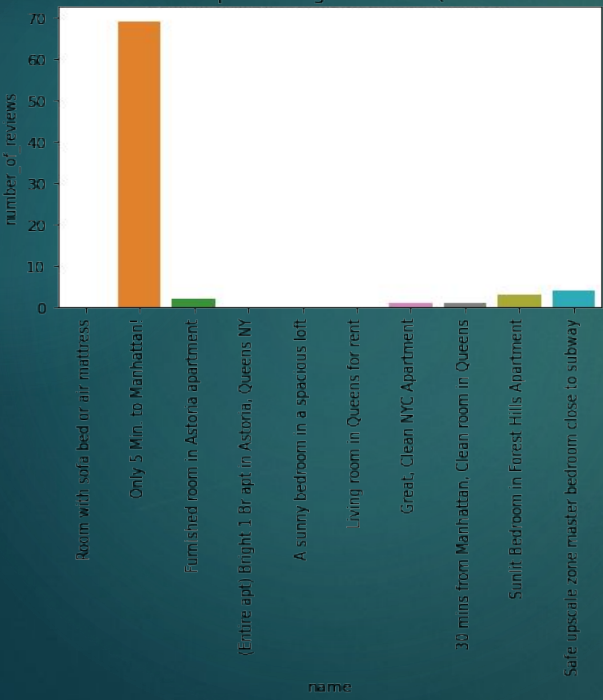
Underperforming Hotels in Neighbourhood_group
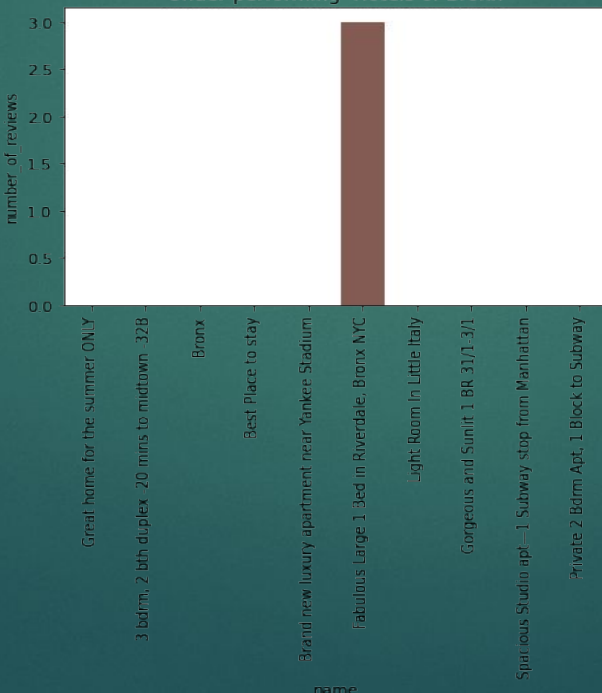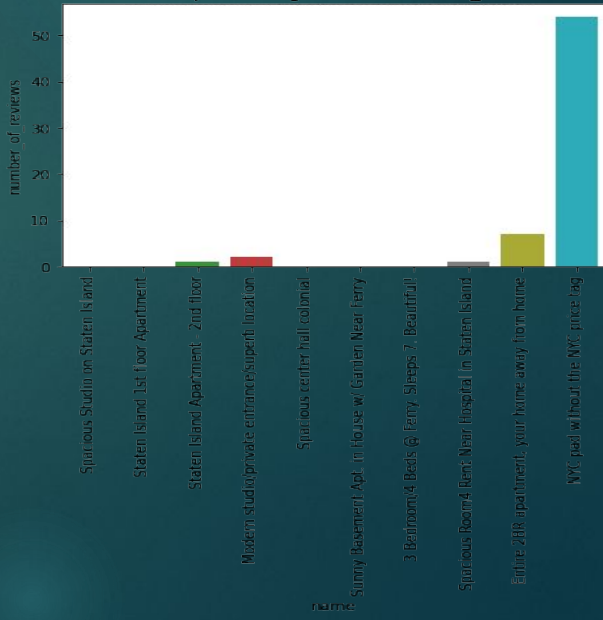
Top Hosts:
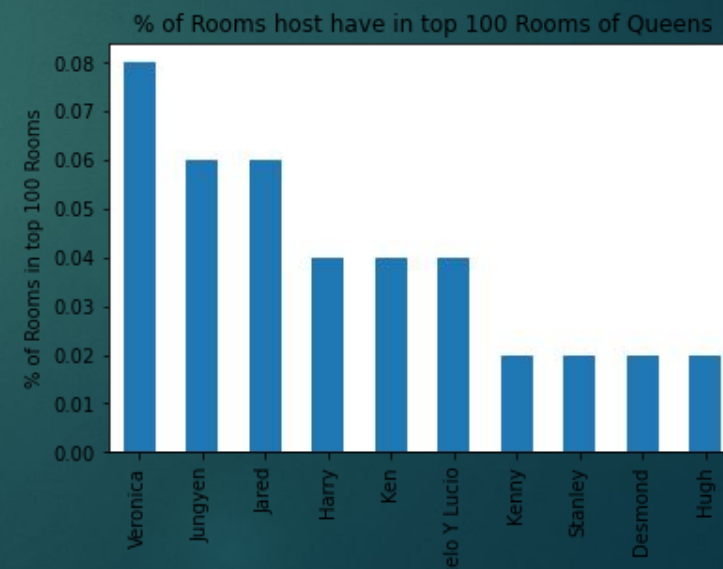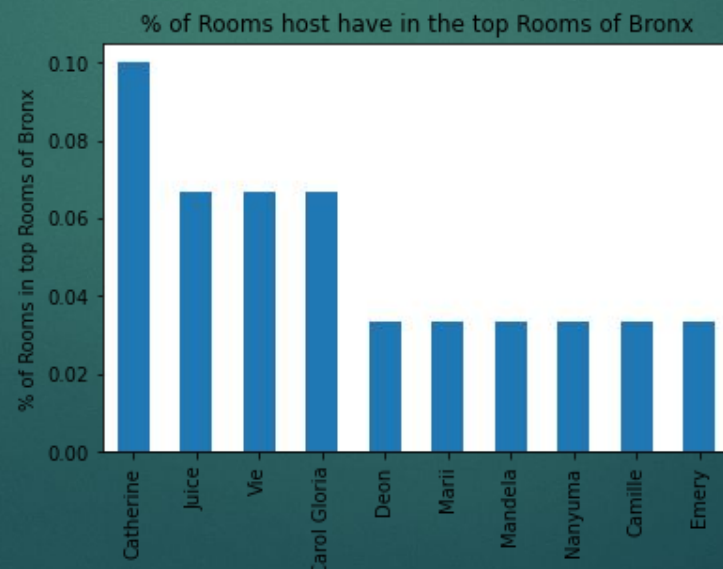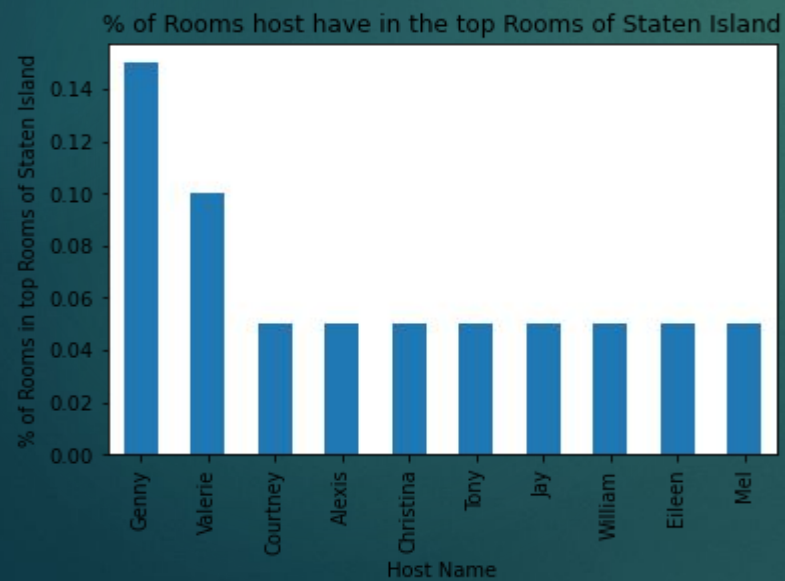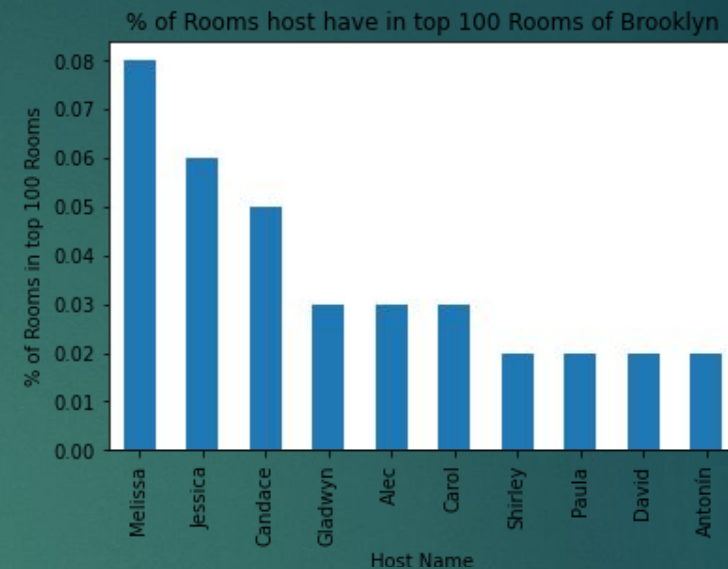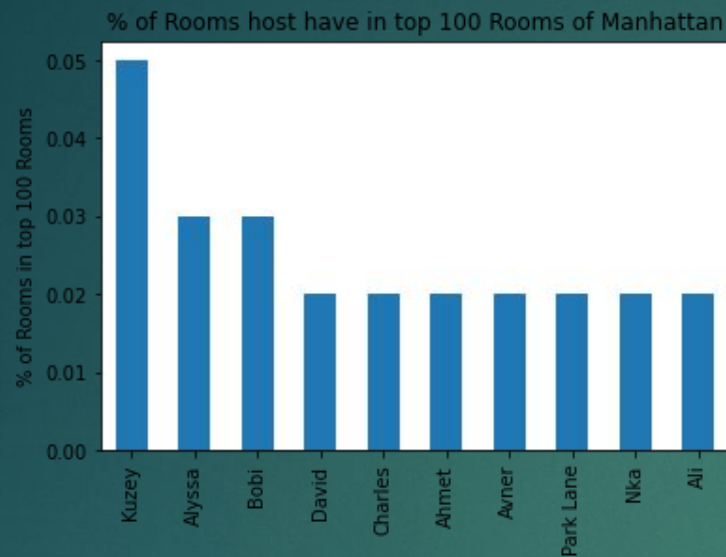
Average price vs Number of reviews:

Insights: we can see that no one ready to pay high amount for shared room even private rooms with high amounts are not that much preferred but apt in Manhattan and Brooklyn with high price is preferred.

Recommendations:

- ► The most preferred properties in Manhattan is private rooms which have low or medium cost have low minimum_nights and high availability we should invest more in such rooms.

- ► We should plan to take over more medium and low rates room in Manhattan.

- ► Host Kuzey have many rooms in top 100 list so she can be trusted as a good host and we can ask her to provide more of her rooms.

- ► We can plan to take more of the rooms from host Melissa in Brooklyn.

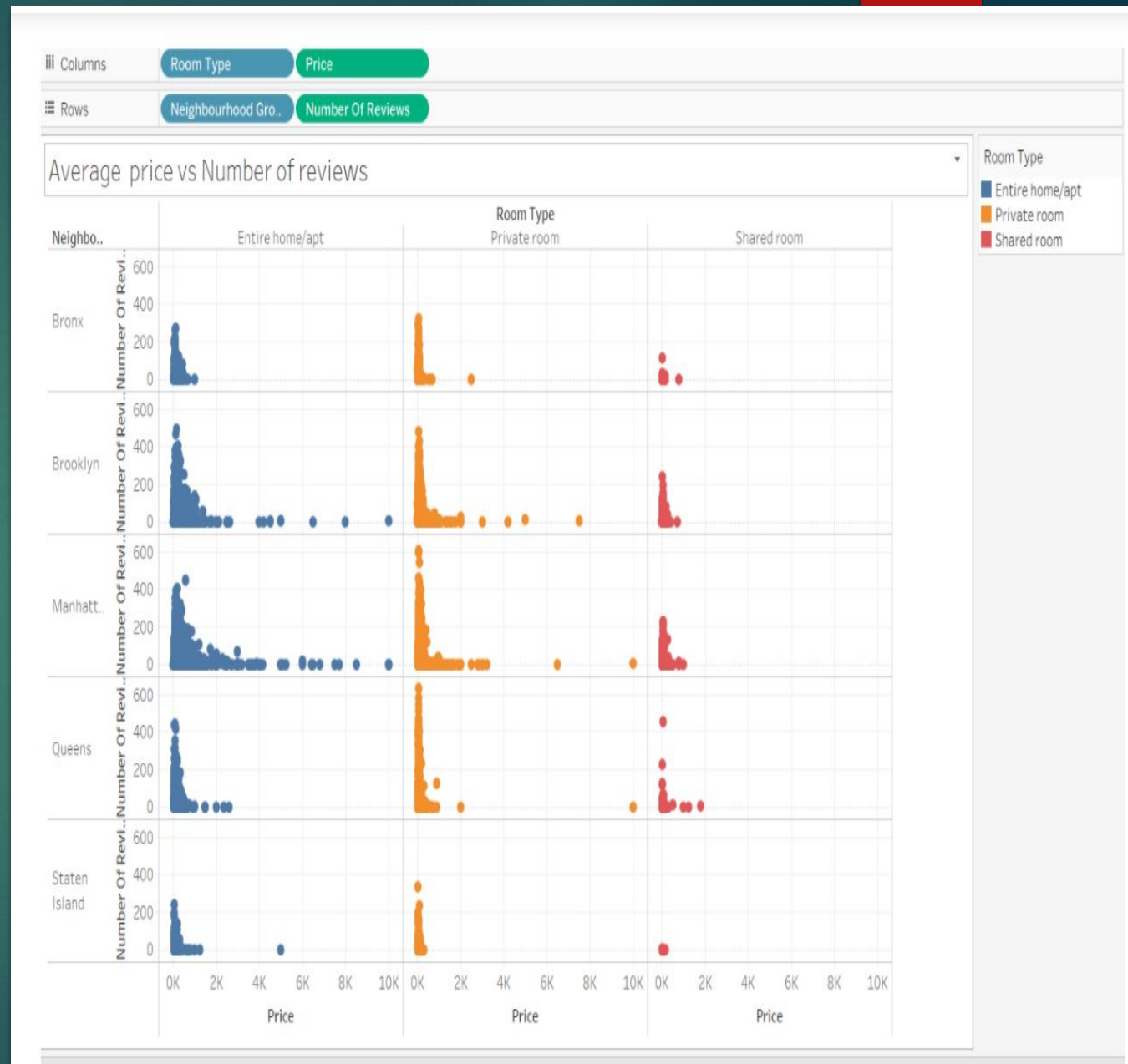- ► All these underperforming are in Astoria neighbourhood. Also Astoria is in the top visiting list so we can plan to buy some good private rooms in Astoria.

- ► Private rooms are highly preferred in Queens.

- ► We have lesser number of high rate properties in Queens we can plan to get such properties.

- ► We can ask host veronica to offer more of her rooms to Airbnb.

- ► We can think of buying low cost properties as it is mostly preferred by people of Bronx

Appendix:
Data sources:

► Here is a snapshot of our data dictionary ->

► This dataset contains information about different Airbnb listings along with their hosts, locations, prices and other attributes.

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 Methodology :

(Internet is required to open this File)

Some of the code snippets

```python
# top 100 rooms in Manhattan
manhatten_best=df[((df.neighbourhood_group == 'Manhattan'))]
m1=manhatten_best.sort_values(by=['availability_365','minimum_nights','number_of_reviews'],ascending = [False, True, False])
manhatten=m1.head(100)
manhattan_1=manhatten.head(10) #top ten rooms
```

```python
# Manhattan best hotles :
plt.title('Top 10 Hotels of Manhattan')
plt.xticks(rotation=90)
sns.barplot(data=manhattan_1,x='name',y='number_of_reviews')
plt.show()
```

Assumptions:

- We have made a general assumption that more reviews on a listing translate as more traction/more number of bookings on that listing, the reasoning being that more reviews usually mean that more people have booked and lived in that property.