

# **AIRBNB CASE STUDY**

By-

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# AGENDA

- Objective
- Background
- Key Findings
- Recommendations
- Appendix



# OBJECTIVE

- Improve shared understanding about the market conditions.
- Improve shared understanding about customers
- Find categorization of customers based on their preferences
- Understand about the most popular localities and properties in New York currently
- Provide recommendations to stakeholders and relevant departments for future conditions.

# BACKGROUND

- Major decline in revenues due to pandemic, in the last few months
- Restriction are been lifting
- People have started travelling more
- Airbnb wants to make sure that it is fully prepared for this change.



# NUMERICAL STATS

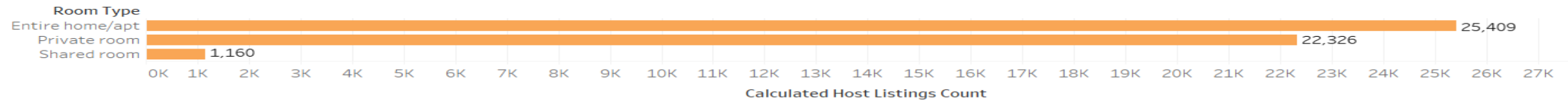
- The description of 3 variables over the locations are described in the table, namely:
  - Minimum duration of stay
  - Count of listings
  - No of reviews
- We are taking no. of reviews for popularity measure, and listings as total expansion, and checking the flow of attributes to recommend the next steps for AirBnB owners.

Neighbourhood total description

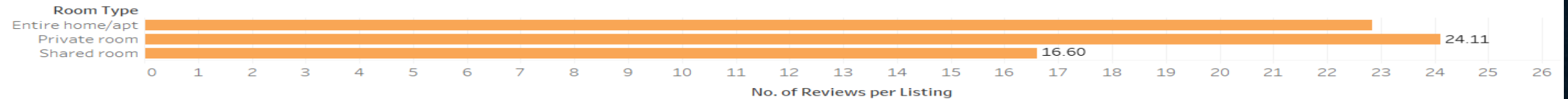
Neighbourh..	Minimu..	Count of ..	No. of Re..	
Bronx	1	362	24.82	Abc
	2	357	32.21	Abc
	3	180	27.57	Abc
	4-5	91	24.55	Abc
	6-7	37	7.14	Abc
	8-29	26	8.12	Abc
	30-31	25	6.56	Abc
	>31	13	4.00	Abc
Brooklyn	1	4,650	27.53	Abc
	2	5,321	31.97	Abc
	3	3,597	27.43	Abc
	4-5	2,817	19.36	Abc
	6-7	1,245	8.76	Abc
	8-29	1,206	7.75	Abc
	30-31	1,077	11.79	Abc
	>31	191	11.76	Abc
Manhattan	1	5,418	27.43	Abc
	2	4,506	27.11	Abc
	3	3,463	24.75	Abc
	4-5	2,845	18.63	Abc
	6-7	1,251	11.79	Abc
	8-29	1,357	8.06	Abc
	30-31	2,524	6.59	Abc
	>31	297	9.26	Abc
Queens	1	2,178	37.72	Abc
	2	1,390	29.03	Abc
	3	713	24.14	Abc
	4-5	527	17.80	Abc
	6-7	267	11.88	Abc
	8-29	230	9.30	Abc
	30-31	318	6.14	Abc
	>31	43	13.53	Abc
Staten Island	1	112	25.90	Abc
	2	122	44.07	Abc
	3	46	26.11	Abc
	4-5	57	30.42	Abc
	6-7	10	11.60	Abc
	8-29	7	0.86	Abc
	30-31	17	12.12	Abc
	>31	2	0.50	Abc

# HOUSE LISTING & REVIEWS

Number of Host Listings Per House Type



No. of Reviews Per Listing



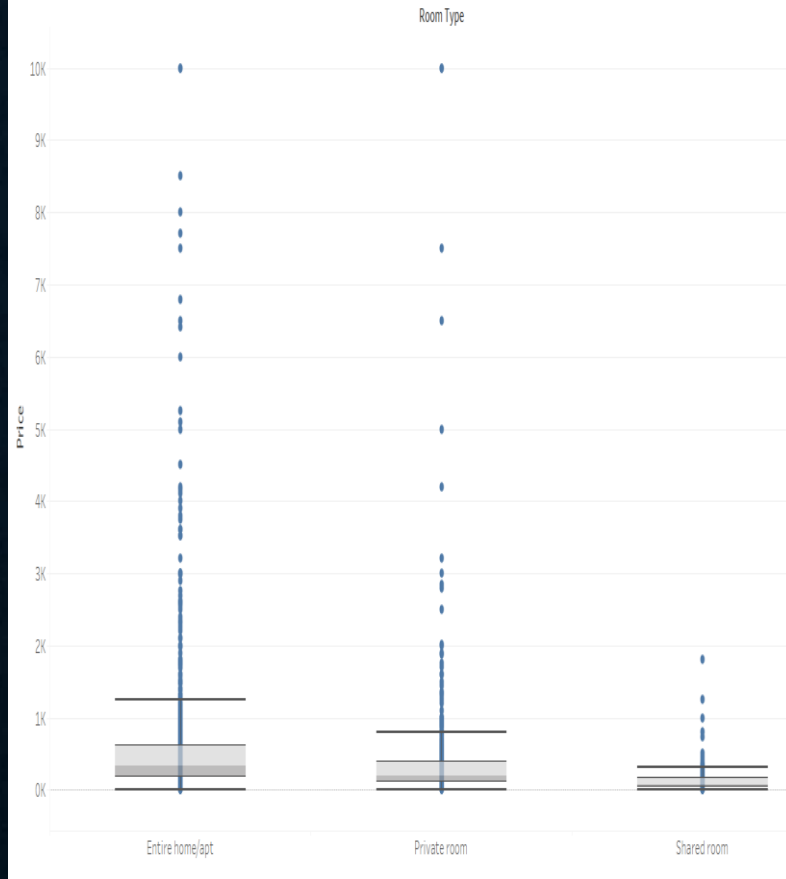
- The above visuals show the total listings per house type and total reviews per house type, where we can derive the private rooms have both inline.
- The statistics makes it clear that Listings in Bronx, Queens & Staten Island doesn't impact the popularity; which is opposite to Manhattan.
- Brooklyn is the moderate place, and it required more data to calculate the forecast.

Neighbourhood Groups statistics

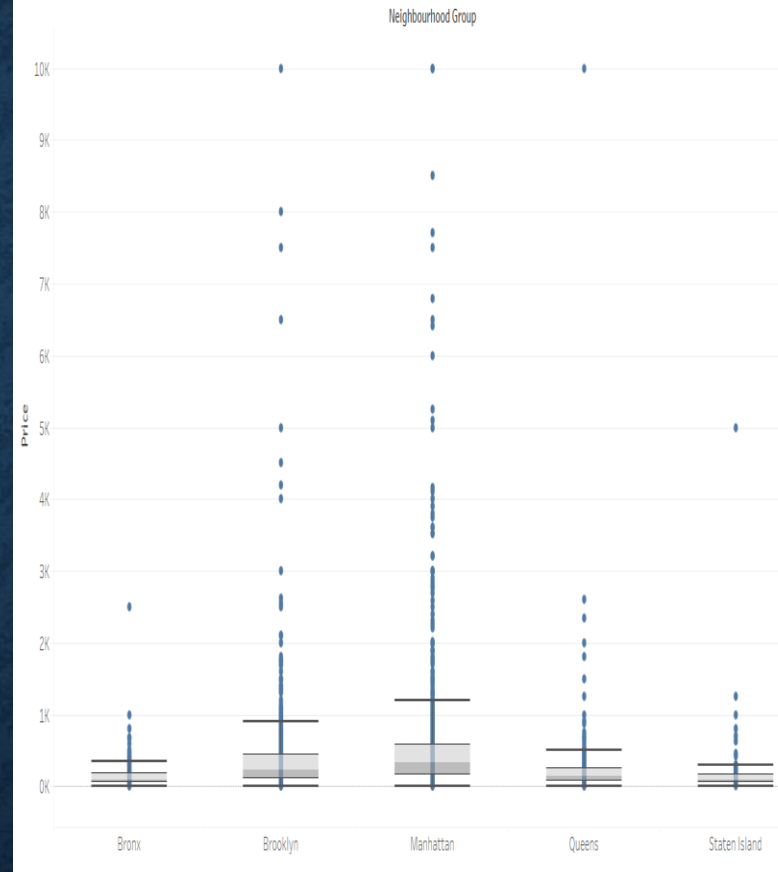


# PRICE ANALYSIS

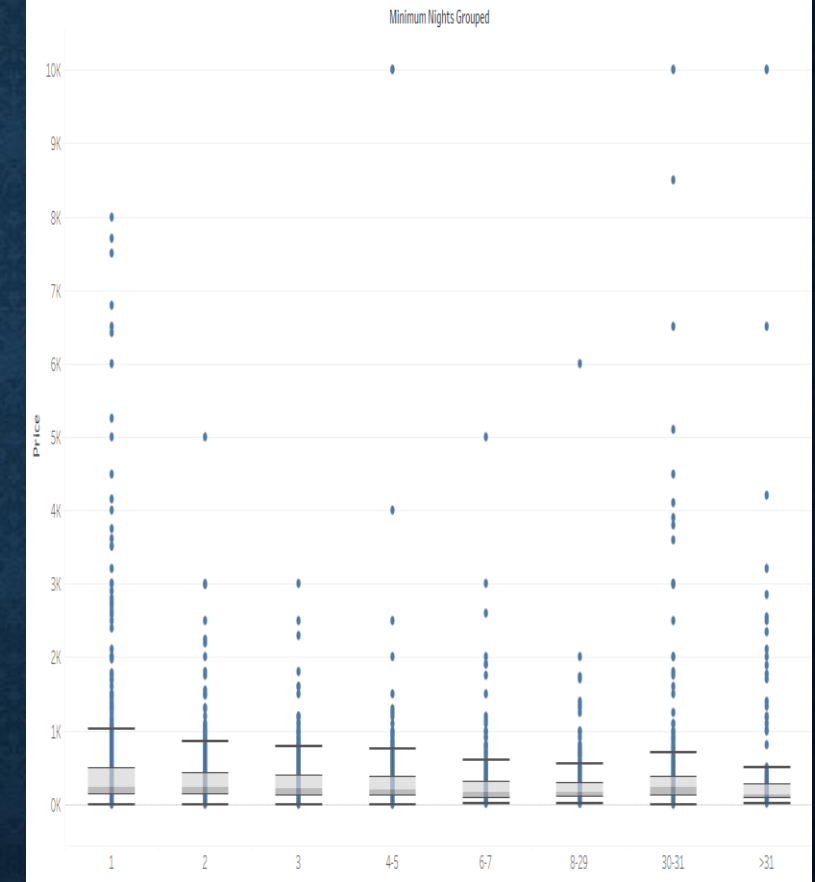
Price Analysis (Room Type)



Price Analysis (Neighbourhood)



Price Analysis (Minimum No. of Nights)

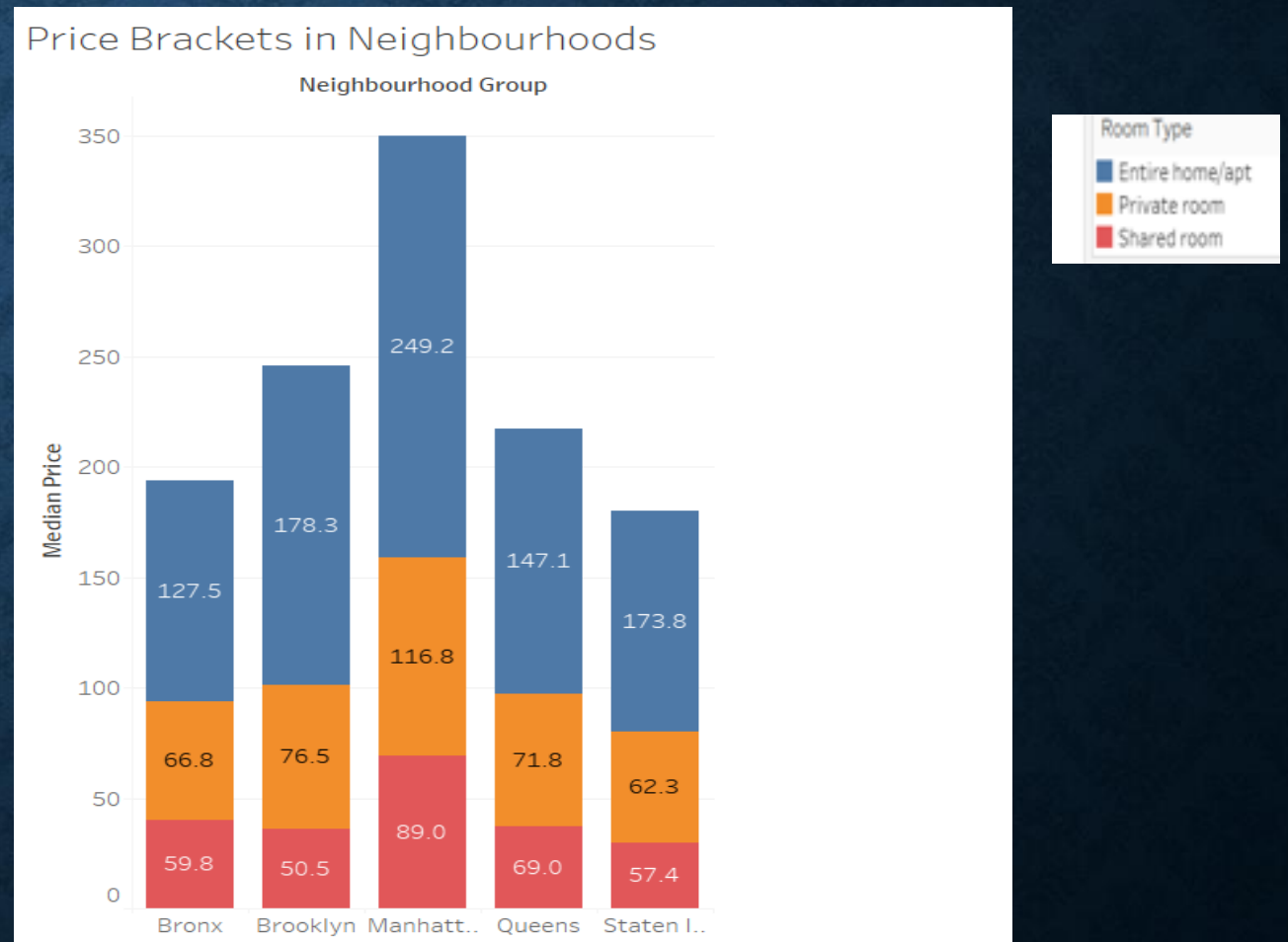


- The Price component has extreme outliers, which cannot be ignored, hence the null treatment won't work here, and we need to take medians for further calculations.
- The overall costliest parameters are:
  - 1. Private room as room type
  - 2. Manhattan as location
  - 3. 1 night on an average, as no. of nights.



# PRICING IN PREFERRED LOCATIONS

- Entire Home/Apt price is approx. 100% more than private rooms except Brooklyn and Staten Island with approx. 150%
- Private room's price is nearly 10% more than Standard rooms except Brooklyn and Manhattan with nearly 40%
- Manhattan is costliest overall and the economical or budget friendly are:
  - Entire Apt: Bronx
  - Private Room: Staten Island
  - Shared Room : Brroklyn





## LISTING AND REVIEWS ON LOCATIONS AND DURATION

- As shown in prior charts and this, the listing and reviews are not proportional for Bronx, Queens and Staten Island, and now we can interpret as the most desirable stay is for 2 nights.
- Since stay in 2 nights and 3 nights are consistent over the locations, AirBnBs need to focus on price for other duration of stays, resulting the duration increase from 2 to 3 days, or maybe 4 days if planned properly.
- Stays from 4 days to >31 days have most inconsistency over the data.

**Expansion of Neighbourhoods over counts**

**Neighbourhood Group**

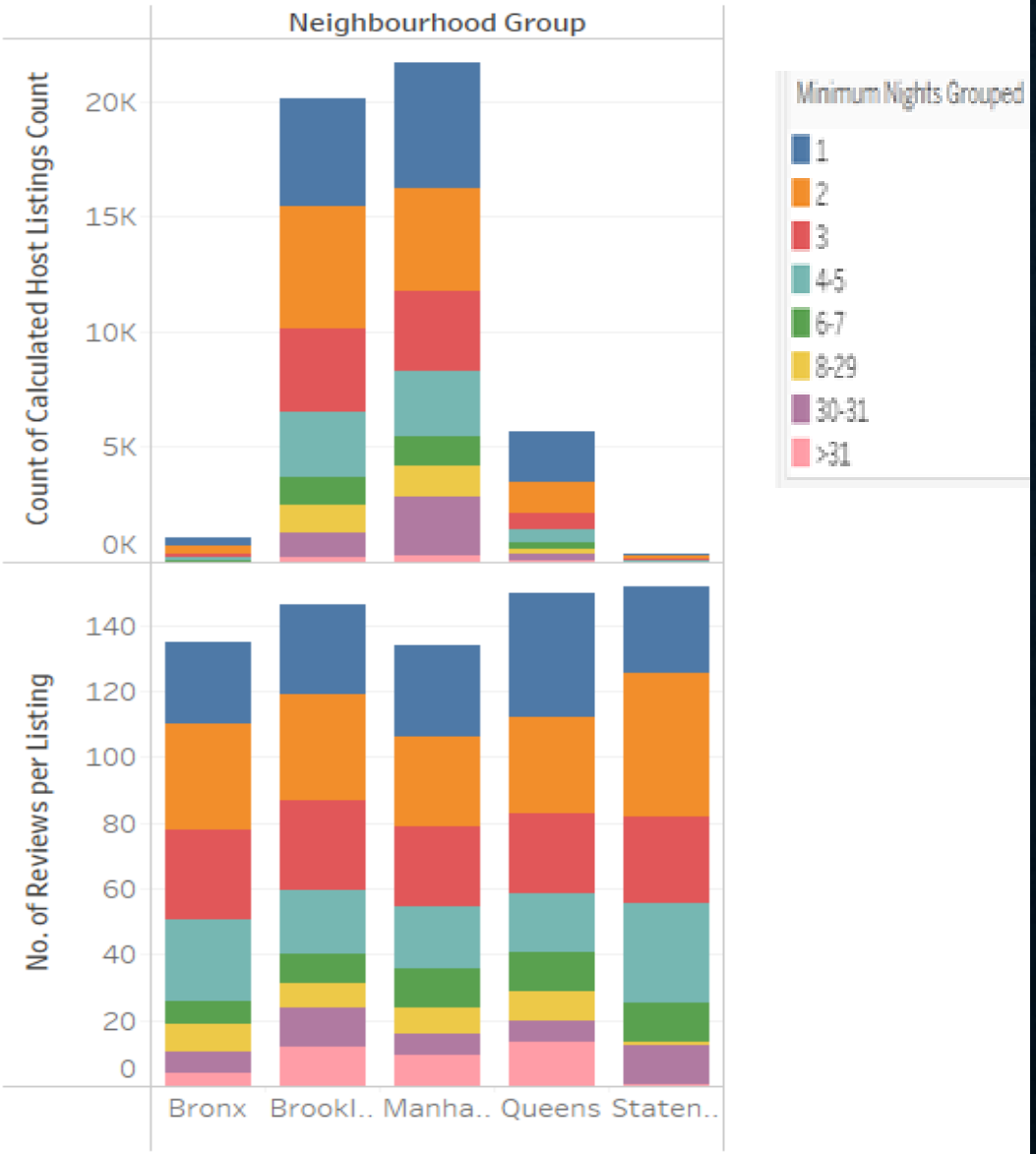
**Count of Calculated Host Listings Count**

**Minimum Nights Grouped**

- 1
- 2
- 3
- 4-5
- 6-7
- 8-29
- 30-31
- >31

**No. of Reviews per Listing**

Bronx Brooklyn Manhattan Queens Staten Island



# RECOMMENDATIONS

- AirBnB should improve the acquisition of private rooms and entire apts. Most popular places like Staten Island, should be prioritized.
- Price changes are required, for exa: Increase the price of private rooms in Queens (around 10%), or decrease the amount of apartments in Manhattan (around 15%).
- Order of listings in popular areas should be maintained by ascending order of nights, or descending order of price, or vice versa.
- AirBnBs need to focus on price for other duration of stays, resulting the duration increase from 2 to 3 days, or maybe 4 days if planned properly.



# APPENDIX

- Data Attributes
  - Host Listing information as host name, neighbourhood etc.
  - Customer preference information as total no. of reviews, monthly no of reviews etc.
- Data Methodology
  - Visualization via Tableau
  - Usage of Median of price due to presence of outliers
  - Detailed methodology document: [Methodology Document](#)
- Data Assumptions:
  - Used Reviews per listing to measure popularity
  - Used no. of reviews to see customer preferences
  - Null values are assumed to be outlier.

**THANK YOU**