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AIRBNB ASSIGNMENT

AGENDA

- Objective
- Background
- Key findings
- Recommendations
- Appendix:
  - Data sources
  - Data methodology

OBJECTIVE

- Improve understanding about market condition post COVID situation.

- Improve safety measures for customer and understanding their requirements.

- Provide early recommendations to the team to improvise customer service.

BACKGROUND

- AIRBNB, Inc. is an American vacation rental online marketplace company based in San Francisco, California, United States. AIRBNB offers arrangement for lodging, primarily homestays, or tourism experiences.

- Due to COVID situation, AIRBNB has seen drop in revenue.

- Once COVID situation is uplifted, AIRBNB wants to be fully prepared with their precautionary measures & new changes.

KEY FINDINGS

- **Manhattan and Brooklyn are the key neighbourhood groups which are in demand based on host listings.**

- **Major booking which happen is for the Entire Home/Apt and least is for shared – therefore focus should be on these two.**

- **Brooklyn and Manhattan has more demand of Entire Home/Apt booking based on average price.**

- **Manhattan and Brooklyn are mostly preferred for minimum night for stay.**

- **Manhattan and Brooklyn are probably well received in terms of reviews because they are the centers of attraction .Every listing in those locales are mostly built in a way that makes a Tourist feel at home .**

- **It's pretty obvious that both Manhattan and Brooklyn are famous for tourism.**

Neighborhood Group Distribution

	neighbourhood_group	count	percent
0	Bronx	1091	2.231312
1	Brooklyn	20104	41.116679
2	Manhattan	21661	44.301053
3	Queens	5666	11.588097
4	Staten Island	373	0.762859

- Brooklyn(41.1) and Manhattan(44.3) Neighborhood Groups has the 85.4% properties listed.

-Staten Island Neighborhood Group has < 1% contribution of properties listed.

-**It's pretty obvious that both Manhattan and Brooklyn are famous for tourism.**

Neighbourhood Group Density

Manhattan, Brooklyn, Queens, Bronx, Staten Island
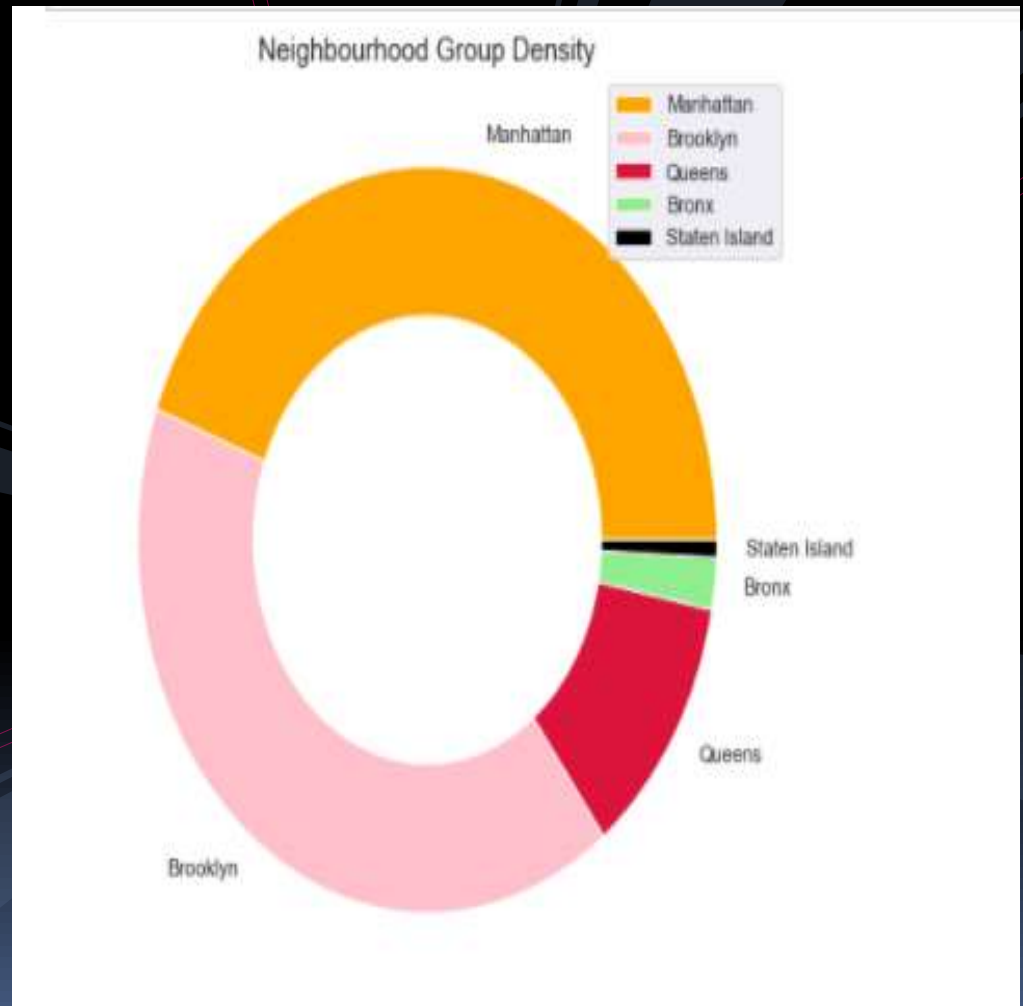
ROOM TYPE DISTRIBUTION

	room_type	count	percent
0	Entire home/apt	25409	51.966459
1	Private room	22326	45.661111
2	Shared room	1160	2.372431

Contribution Room Types of Listing Properties:

- Entire home/apt(51.96%) and Private Room(45.66%) => 97.63% is major part of the properties listed.

- Only 2.37% is the contribution of shared room properties listed.
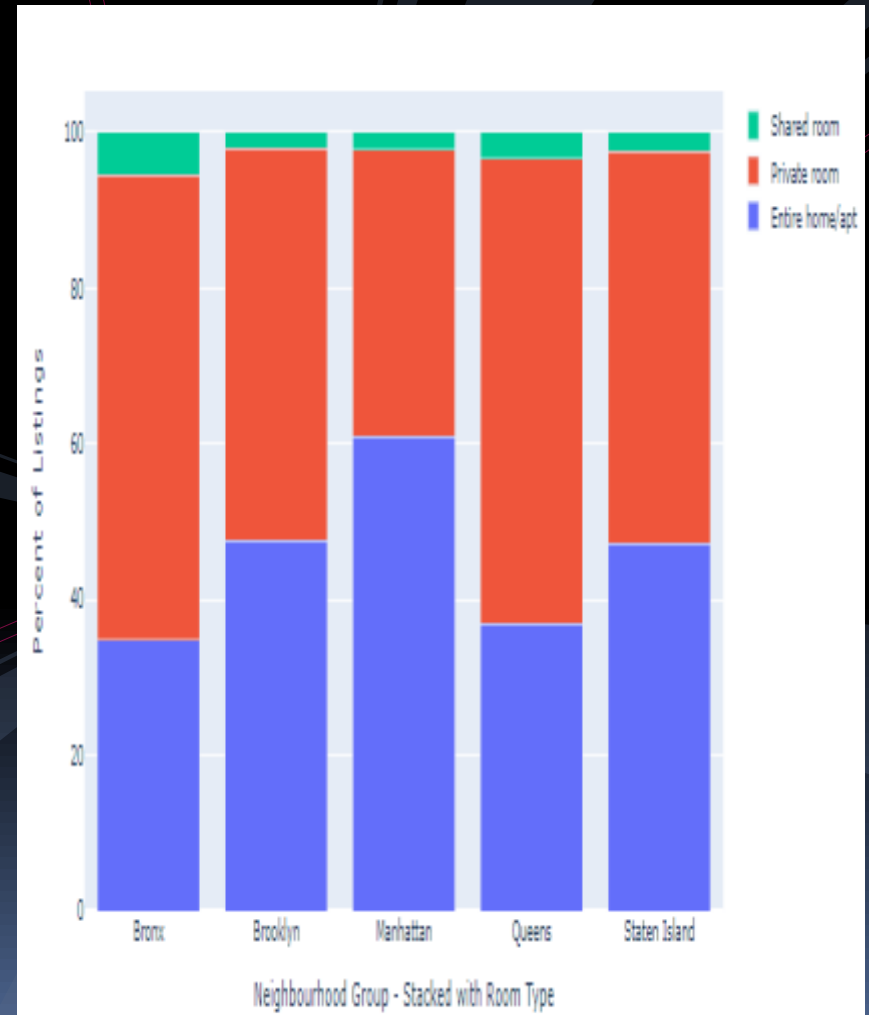
Shared room
5,409

Private room
72,062

Entire home/apt
2,71,834
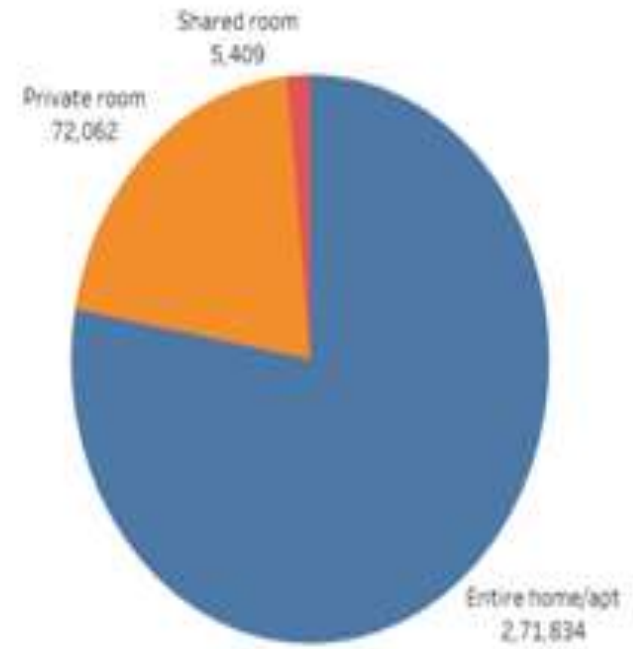
Room Type Contribution with in each Neighborhood Groups

	neighbourhood_group	room_type	count_ng_rm	count	percent_grp
0	Bronx	Entire home/apt	379	1091	34.738772
1	Bronx	Private room	652	1091	59.761687
2	Bronx	Shared room	60	1091	5.499542
3	Brooklyn	Entire home/apt	9559	20104	47.547752
4	Brooklyn	Private room	10132	20104	50.397931
5	Brooklyn	Shared room	413	20104	2.054318
6	Manhattan	Entire home/apt	13199	21661	60.934398
7	Manhattan	Private room	7982	21661	36.849638
8	Manhattan	Shared room	480	21661	2.215964
9	Queens	Entire home/apt	2096	5666	36.992587
10	Queens	Private room	3372	5666	59.512884
11	Queens	Shared room	198	5666	3.494529

Major difference in contribution of Overall Room Type and Within Neighbor Group (based on delta percentage calculation):
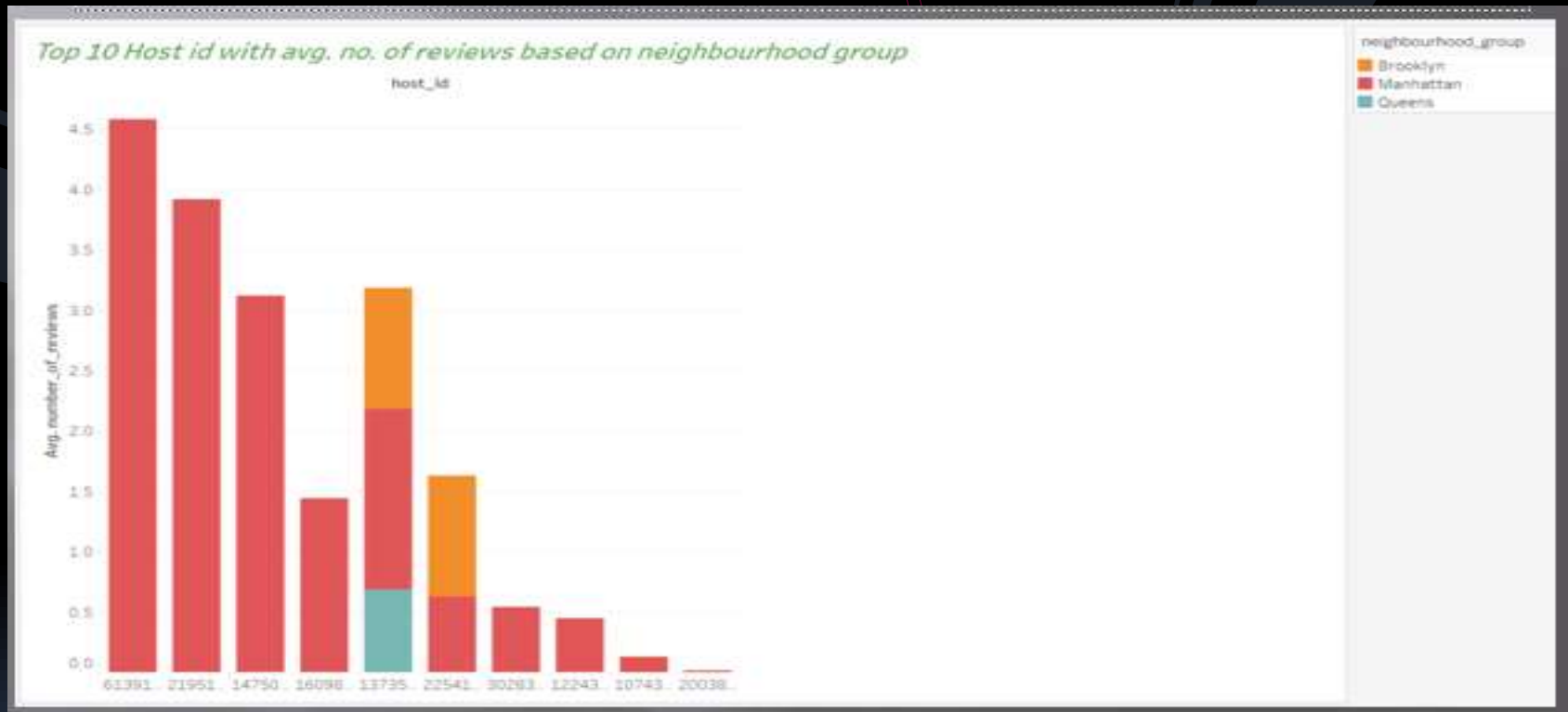**- Manhattan has (60.9 - 51.9)/60.9 = 14.7% higher contribution of Entire home/apt compared to the Overall Contribution of Entire home/apt.**
-Queens has (59.5 - 45.66)/59.5 = 23.2% higher contribution of Private room compared to the Overall Contribution of Private room.

Top 10 host id with reviews & neighborhood group

Top 10 Host id with avg. no. of reviews based on neighbourhood group

neighbourhood_group
- Brooklyn
- Manhattan
- Queens

As per plot, top 10 host id with average number of reviews belongs to Manhattan & Brooklyn group.
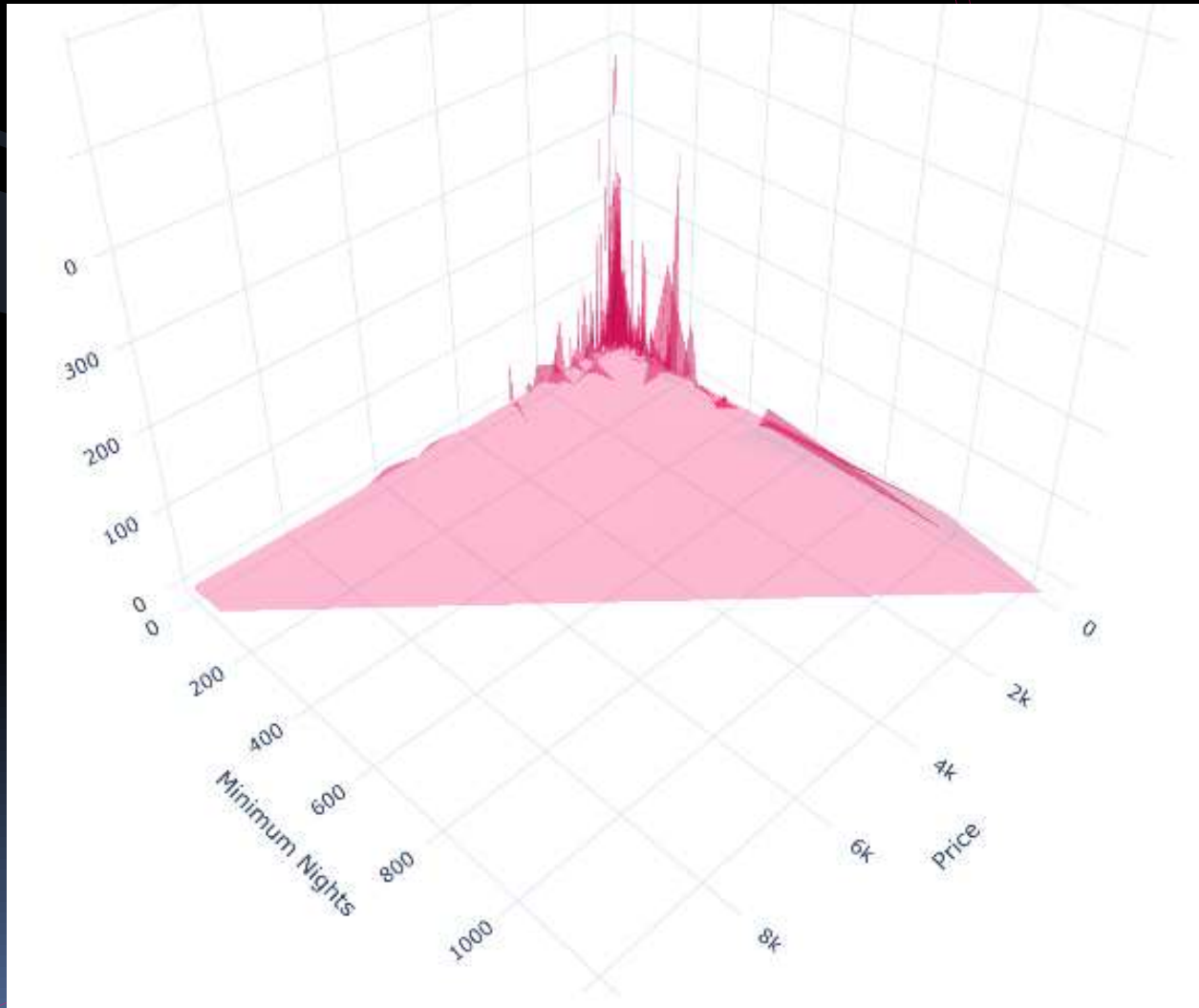
Price Vs Number of Review

Scatter plot between 'Price' and 'Number of Reviews' explains, properties with less price has more number of reviews which in turn means more bookings for properties with less price .

Price vs Number of Review

3-Dim Plot of Price Vs Minimum Nights of Stay Vs Number of Reviews

- 3D plot explains, properties with higher number of minimum nights of stay and higher price has no reviews and vice versa.

BASED ON INSIGHTS SUGGESTIONS TO INCREASE REVENUE

- Manhattan , Brooklyn holds most of significance for a Tourist.

- Due to COVID conditions, Sanitize all the things & also take all precautionary measures.

- Keep social distancing and provide all emergency/essential services ,masks, sanitizer, etc to customers.

- Focus on customer safety first rather than business safety.

RECOMMENDATIONS

- Focus on advertising and marketing with all precautionary steps which are going to performed due to COVID scenario.

- Customer satisfaction is priority so always improvise/work based on their feedback and suggestions.

- Always have a healthy relationship with customers & also improve their experience with new trendy things.

APPENDIX – DATA SOURCE

Columns Description

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

Categorical Variables:
- room_type
- neighbourhood_group
- neighbourhood

Continuous Variables(Numerical):
- Price
- minimum_nights
- number_of_reviews
- reviews_per_month
- calculated_host_listings_count
- availability_365

Location Variables:
- latitude
- longitude

Time Variable:
- last_review

APPENDIX – DATA METHODOLOGY

- We have conducted this analysis using following process –
  - Cleaned dataset by removing duplicates, treating outliers/missing values & removing null values and unnecessary columns etc.

  - Performed uni-variate & bi-variate analysis with all affecting features to draw some insights.

  - Started visualizing the dataset using python , tableau & plotly. Based on that provided outcome/results & recommendations.

  - *DETAILED DOCUMENT ATTACHED-*

Microsoft Office
Word Document

THANK YOU