



Visualizing The Future: Enhancing Airbnb's Revenue Potential

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Introduction :

Airbnb, Inc. is an American company that operates the online marketplace for lodging, vacation rentals, and tourism activities that you described. It provides a platform for hosts to offer short-term accommodations and tourism experiences to guests.

New York City is indeed one of the most diverse and populous cities in the United States. It consists of five boroughs: Manhattan, Brooklyn, Queens, the Bronx, and Staten Island. These boroughs were consolidated into a single city, and each has its own unique characteristics and attractions.


New York City is renowned as a global centre for the financial services industry, hub for media, entertainment , telecommunications, law, and advertising.

Additionally, New York City is a popular destination for tourists from around the world, with a wide range of cultural attractions, museums, art galleries, shopping districts, and diverse culinary experiences.

Problem Statement :

- 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.

Objective :



To gain insights into customer preferences and enhance their experience when using Airbnb listings.

To will analyse how various parameters influence pricing in Airbnb listings.

To provide specific and actionable suggestions to enhance the quality of new acquisitions and elevate the overall customer experience in Airbnb listings.

Key Insights :

By conducting thorough analyses, we uncovered significant findings pertaining to our customers' preferences.

- We explored their inclination towards specific neighborhoods and room types.
- customers' demand for properties based on the minimum nights offered.
- Furthermore, we gained insights into the price ranges preferred by our customers.
- Our examination of price variations across different room types, neighborhoods, and geographical areas allowed us to better understand market dynamics.
- Additionally, we identified the top-reviewed properties, providing valuable information for business decisions and enhancing customer experiences

Customers Preference for Neighborhoods

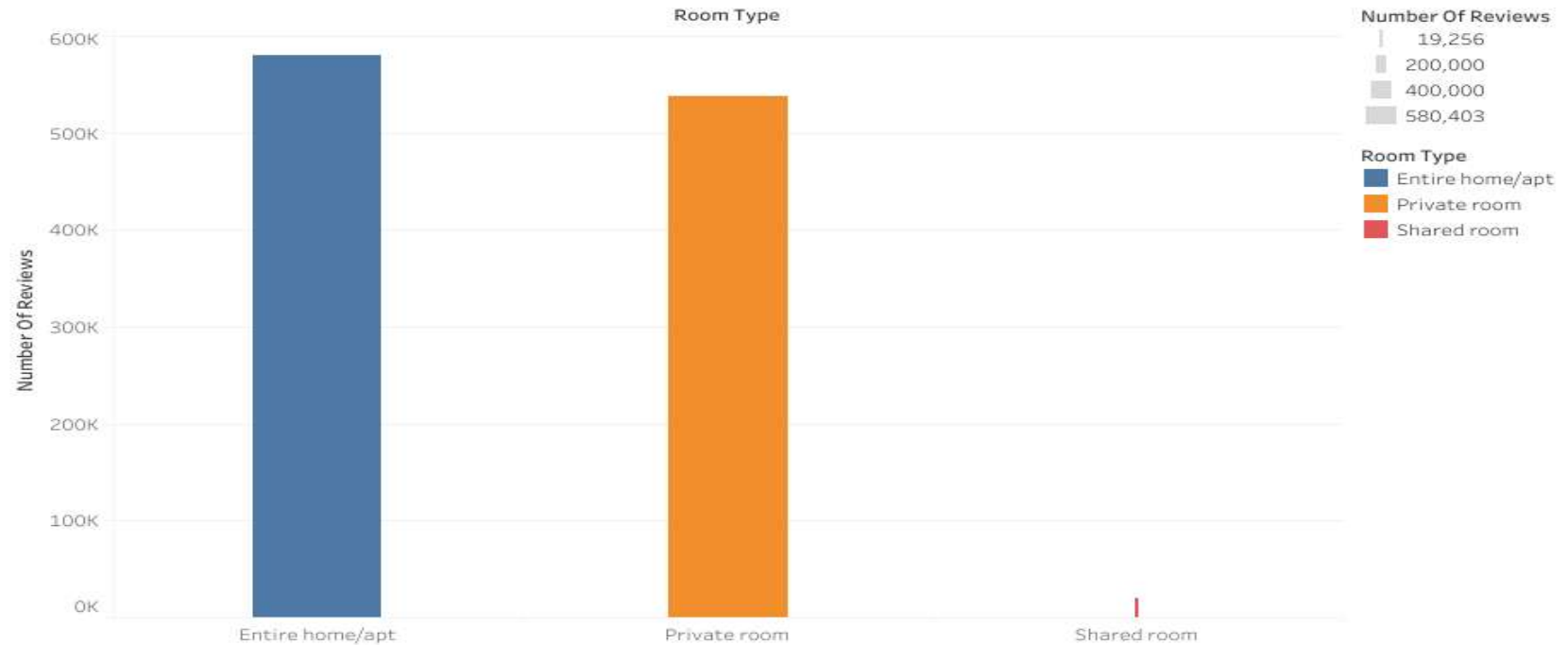
Popular Neighbourhoods



- Manhattan and Brooklyn stand out with the highest number of reviews in their listings, indicating a higher volume of bookings in these neighborhoods. Means higher level of customer satisfaction in these areas.

Total Reviews w.r.t Room Type

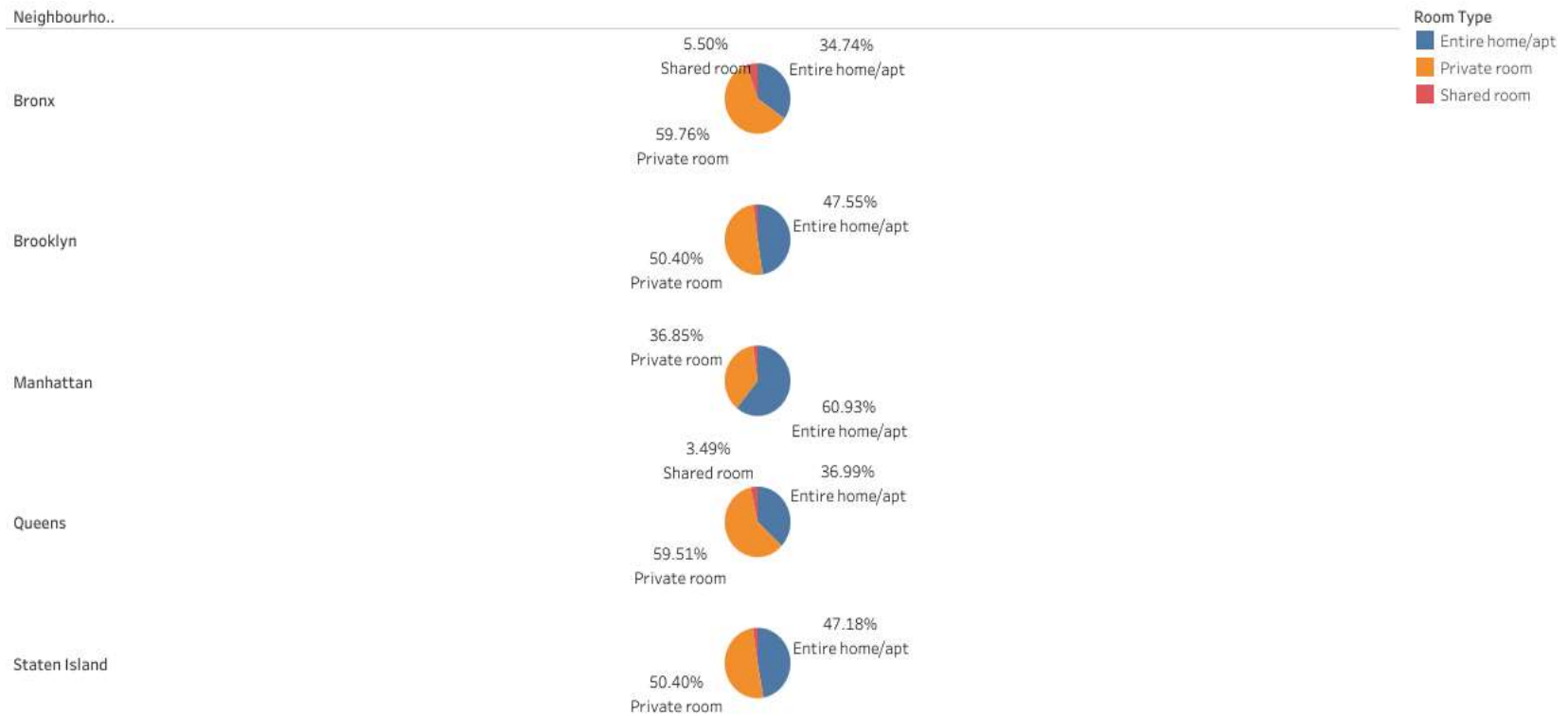
Total Reviews w.r.t Room type



Sum of Number Of Reviews for each Room Type. Colour shows details about Room Type. Size shows sum of Number Of Reviews.

- The analysis reveals that customers have a clear preference for private rooms or entire homes, as opposed to shared rooms.

Customer preference for neighbourhood w.r.t Room type

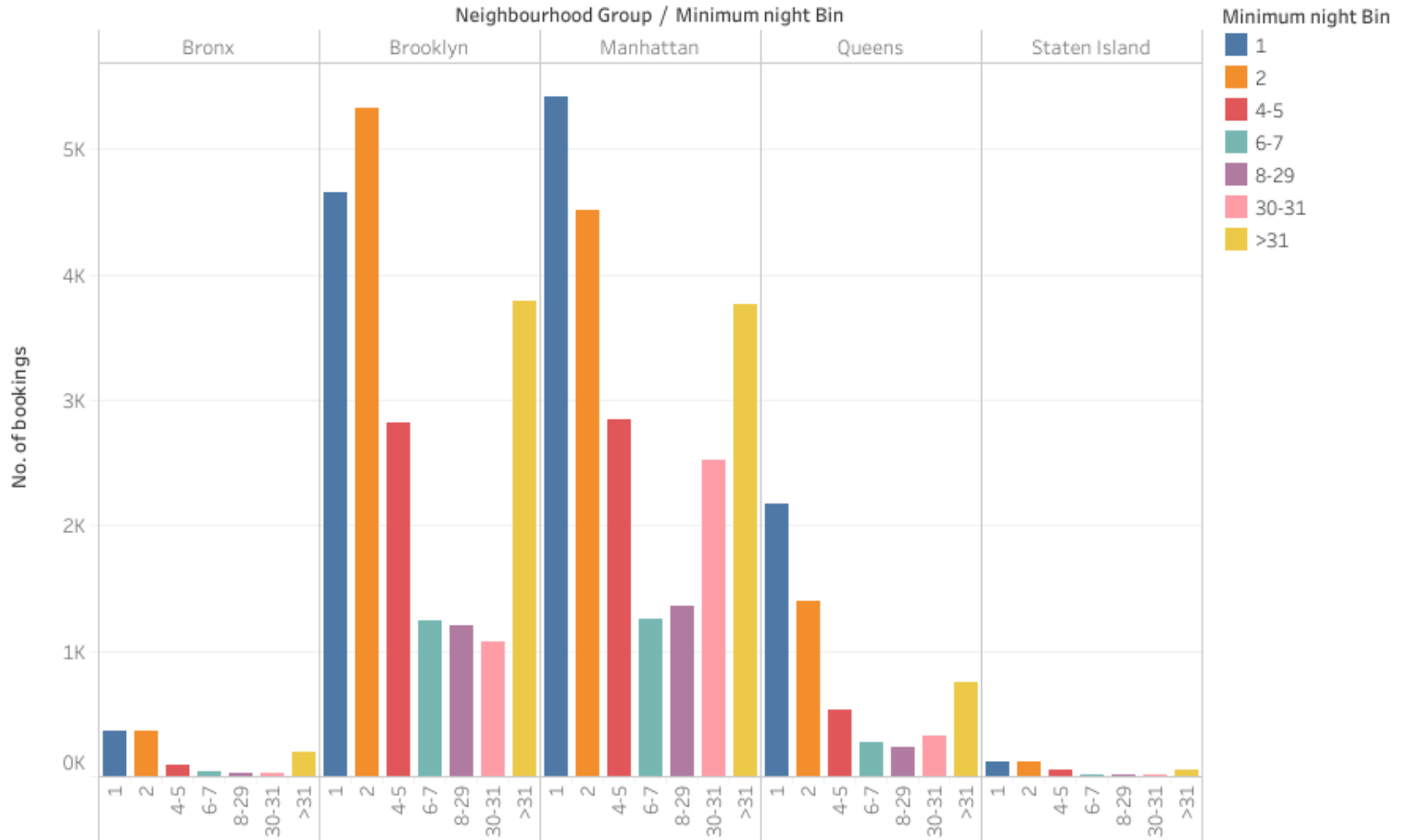


Recommendation:

- Airbnb should promote shared rooms with targeted discounts to boost bookings.
- Consider acquiring private rooms in Manhattan and Brooklyn, and entire homes in Bronx and Queens to meet customer preferences and increase offerings.

Exploring Property Demand: The Influence of Minimum Nights Offered on Bookings

Customer Booking w.r.t minimum nights



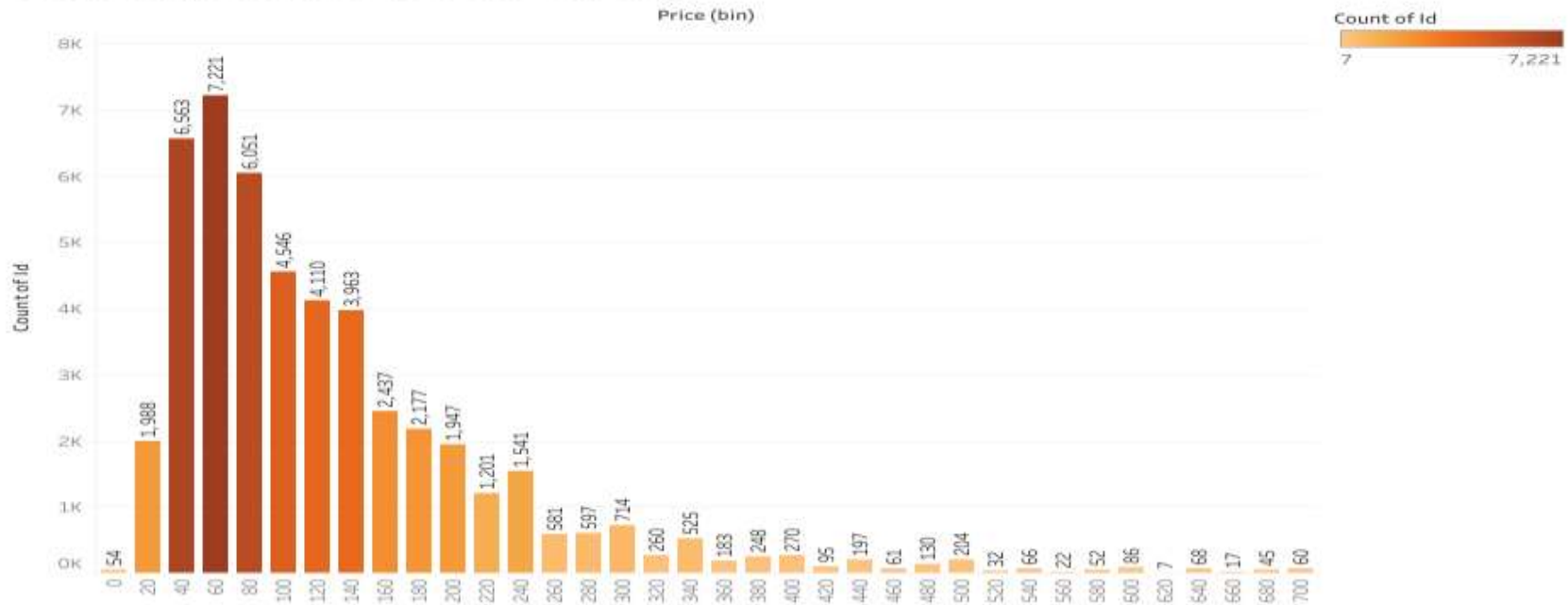
- Listings with 1-5 night minimum stays receive the highest number of bookings. A significant increase in 30-day bookings suggests a preference for monthly rentals. Additional spikes at 60 and 90 days further support the trend of longer-term stays driven by monthly rent considerations.

Recommendation:

- Expanding the inventory of hosts and listings offering monthly rentals (30-60-90 days) presents a significant opportunity. The popularity of 30-day bookings in Manhattan and Brooklyn indicates a potential target market in these areas.
- Furthermore, considering the demand for quarantine purposes, acquiring listings for weekly or bi-weekly rentals can cater to customers in need of temporary accommodations.

Customer-Preferred Price Ranges for Airbnb Bookings

Customers preference based on Price range



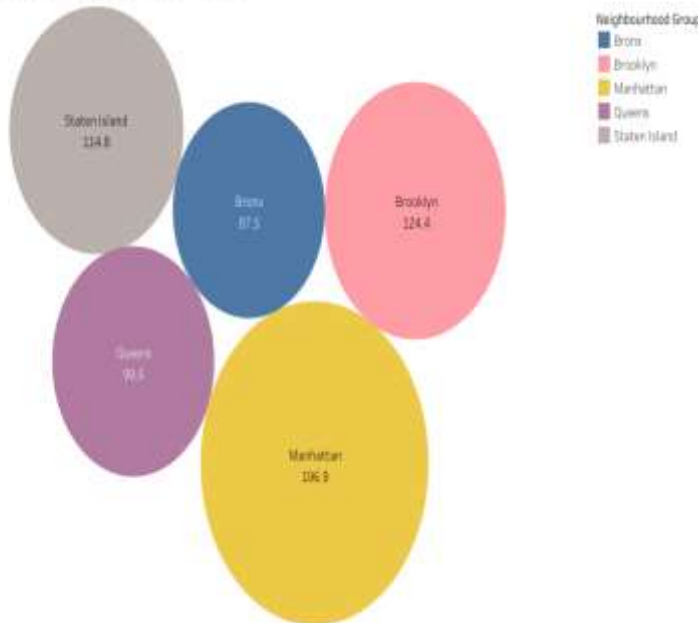
- Based on above analysis, we have observed that the majority of customers display a strong preference for prices within the range of \$40 to \$200.

Recommendation:

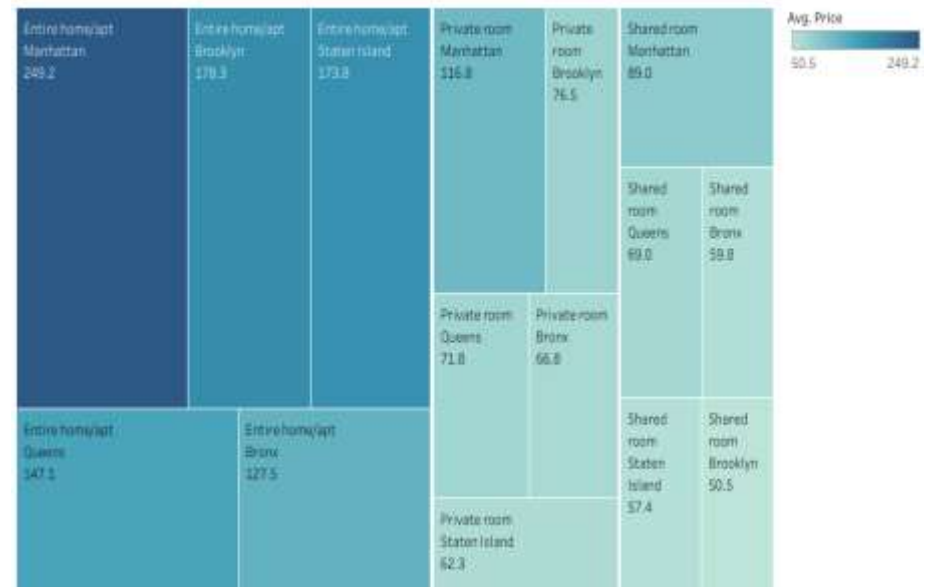
- Focusing on new acquisitions and expansion efforts within the \$40 to \$200 price range. This strategy will effectively cater to the demands of a large customer base.

Analyzing Price Variation: Exploring Room Types and Neighbourhood Impact

Average price of Neighbourhood groups



Price variation w.r.t Room Type & Neighbourhood



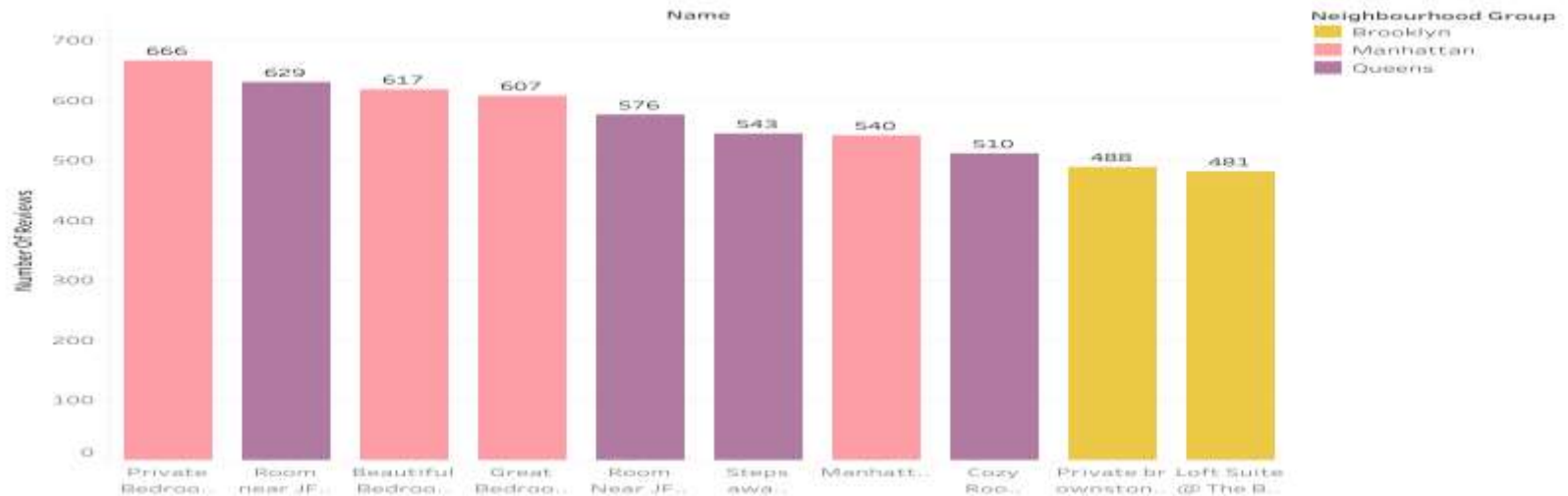
- Manhattan Takes the Lead with High Prices. The 'Entire home/apt' room type in Manhattan is the most expensive at \$250, much higher than the overall average.
- Brooklyn Offers Affordable Shared Rooms.

Recommendation:

- 'Private rooms' in Manhattan and Brooklyn, as well as 'Entire homes' in Bronx and Queens, fall within the favourable price range(\$40- \$200).
- Additionally, explore Brooklyn for expansion, as it offers an average price of \$124 and a less saturated market compared to Manhattan.

Properties with Top Reviews

Top 10 Properties Based on Review



- Among the boroughs of New York City, Manhattan, Brooklyn, and Queens stand out as a properties with high ratings and reviews.
- Despite its steep price, the "Private Bedroom in Manhattan" has received the highest number of reviews, making it the most popular and favoured property in all of NYC.

Recommendations:

- Promotion of shared rooms with targeted discounts to attract more bookings.
- Emphasize acquiring listings with a monthly rental duration (30-60-90 days). There is a potential market for 30-day rentals, especially in Manhattan and Brooklyn.
- Weekly or bi-weekly rentals can also be acquired, targeting customers who require temporary accommodation for quarantine purposes or extended stays in NYC.
- New acquisitions and expansion can be done in the price range of \$40 - \$200 to cater to a broader customer base and increase volume.
- Explore acquiring more 'Private rooms' in Manhattan and Brooklyn and 'Entire homes' in Bronx and Queens.
- Prioritize the expansion of property listings in Brooklyn due to its higher number of 30-day bookings and an average price of \$124.
- Increase acquisitions and focus on new properties in coastal regions to attract customers seeking beachfront or waterfront accommodations, capitalizing on the appeal of these locations.

Appendix:

- **Data sources:**

The dataset includes columns that are clearly labelled and their meanings can be easily understood. Please refer to the accompanying diagram provided below.

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

- **Data Methodology:**

- Cleaned the data set using python.
- The dataset was analyzed using both univariate and bivariate analysis techniques. Tableau was utilized to conduct the analysis and create visualizations, considering various parameters. The key parameters considered for analysis include geography-based bookings, room type-based bookings, number of reviews, and minimum number of nights. Inferences were drawn based on these parameters to gain insights from the data.
- Deriving features Applied statistical methods and created visualizations using Tableau.

- **Assumptions:**

We have made the assumption that, the properties with the highest number of reviews are indicative of better customer satisfaction, although we do not have specific information regarding the nature of those review.