



AIRBNB PROPERTY MANAGEMENT OPTIMIZATION

# airbnb

-BY SHIVANI NAGAR



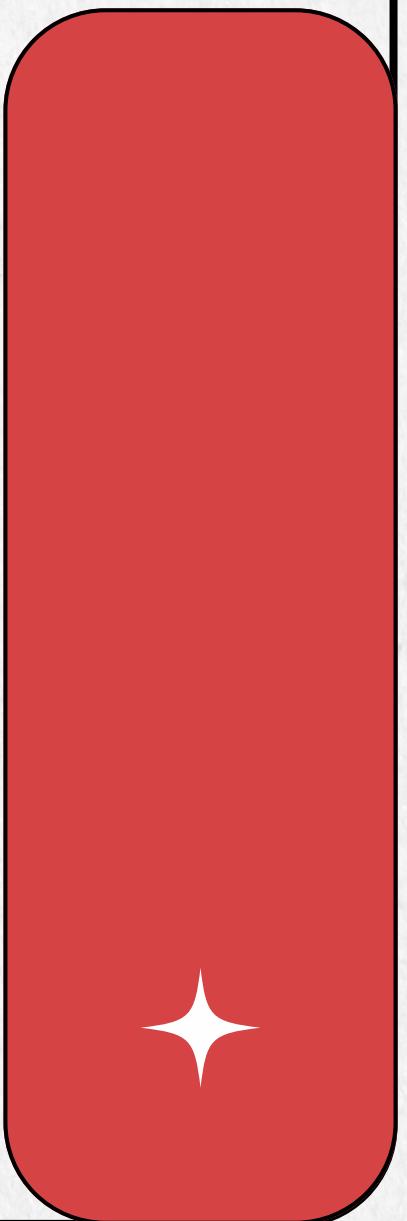
# ABOUT...

creative portfolio



Airbnb, founded in 2008, is a global platform that connects hosts with travelers looking for unique accommodations. Operating in over 220 countries, Airbnb offers everything from private homes to boutique stays, catering to a variety of budgets and preferences.

With its mission to create a world where anyone can belong anywhere, Airbnb also provides Experiences, allowing guests to engage in local activities led by hosts. The platform's secure payment system and 24/7 customer support make it a trusted choice for millions of users worldwide.





# PROBLEM STATEMENT:

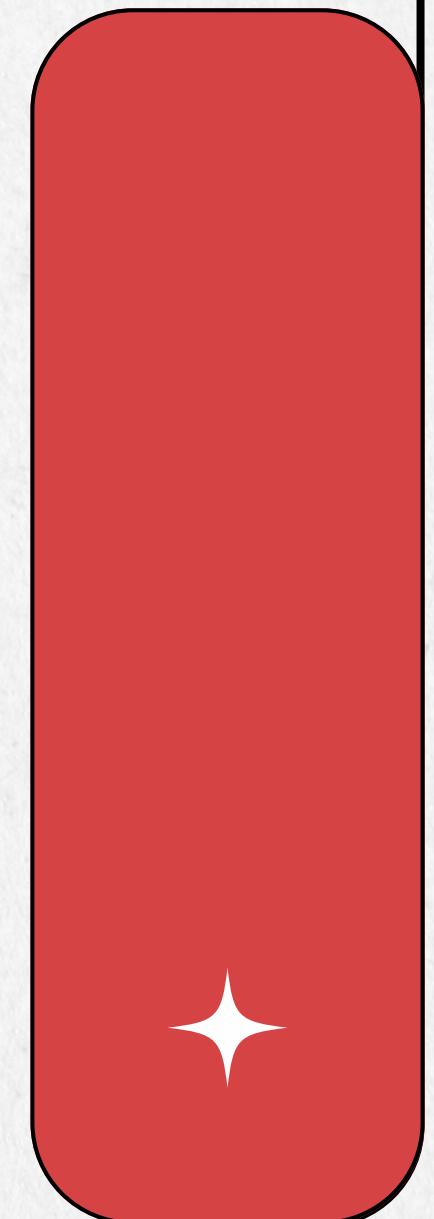
Tableau



As a Data Analyst at Airbnb, the goal is to create a comprehensive Tableau dashboard that optimizes rental strategies, enhances customer satisfaction, and maximizes revenue for property owners. By analyzing Airbnb's dataset, the objective is to extract actionable insights that will aid in strategic decision-making for both Airbnb and its hosts, ultimately improving the overall rental experience and business outcomes.



**DATASET LINK :**





# DATA CLEANING & TRANSFORMATION PROCESS :

Tableau

- **Error Removal:**

- Removed rows with errors in the dataset using the "Home > Remove Rows > Remove Error" function.

- **Column Transformations:**

- Name Column: Transformed the "Name" column to standardize its format.
- Host ID, Host Name, Neighbourhood, Neighbourhood Group, Latitude, Longitude: These columns contain random null or blank values. Since these values cannot be reasonably filled, they were left as is.

- **Country Column:**

- Replaced occurrences of "United States" with blank values using "Transform > Replace Values".

- **Neighbourhood Group:**

- Capitalized each word and corrected spelling for consistency.





# DATA CLEANING & TRANSFORMATION PROCESS :

Tableau

- **Last Review Date:**
  - Changed the data type to "Date" using the "Using Locale > English (United States)" option.
- **License Column:**
  - Deleted the "License" column since it contained entirely null values.
- **Review Date Assumption:**
  - Since the booking date is missing, the last review date is assumed to represent the booking date for the analysis.
- **Neighbourhood Group Analysis:**
  - Excluded null values when calculating host listings by room type for each neighbourhood group.
  -
- **Price and Service Fee:**
  - Extracted text after the "\$" delimiter.
  - Changed data type for both columns to "Currency."

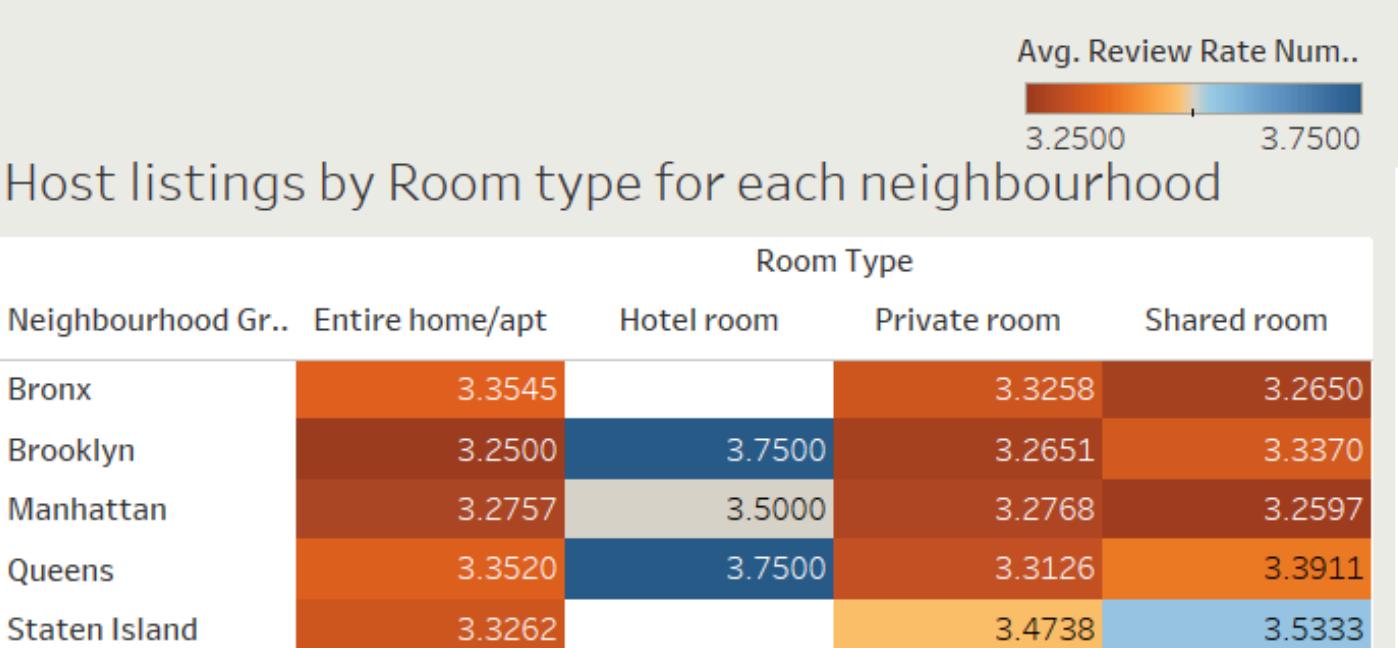


# ANALYSIS BY NEIGHBOURHOOD GROUP

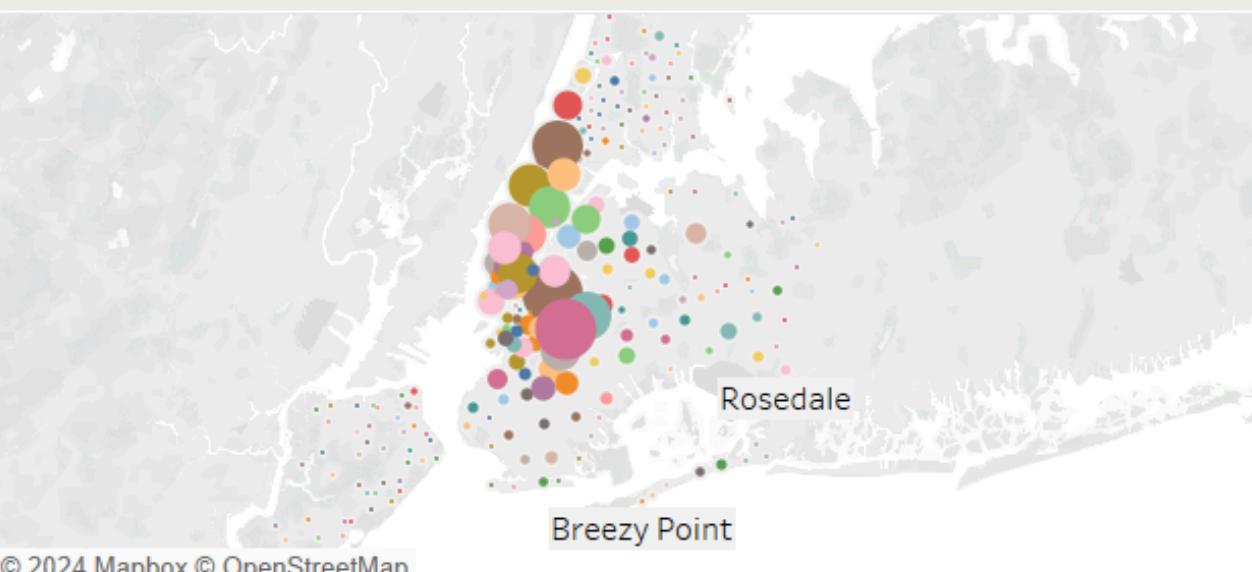


Tableau

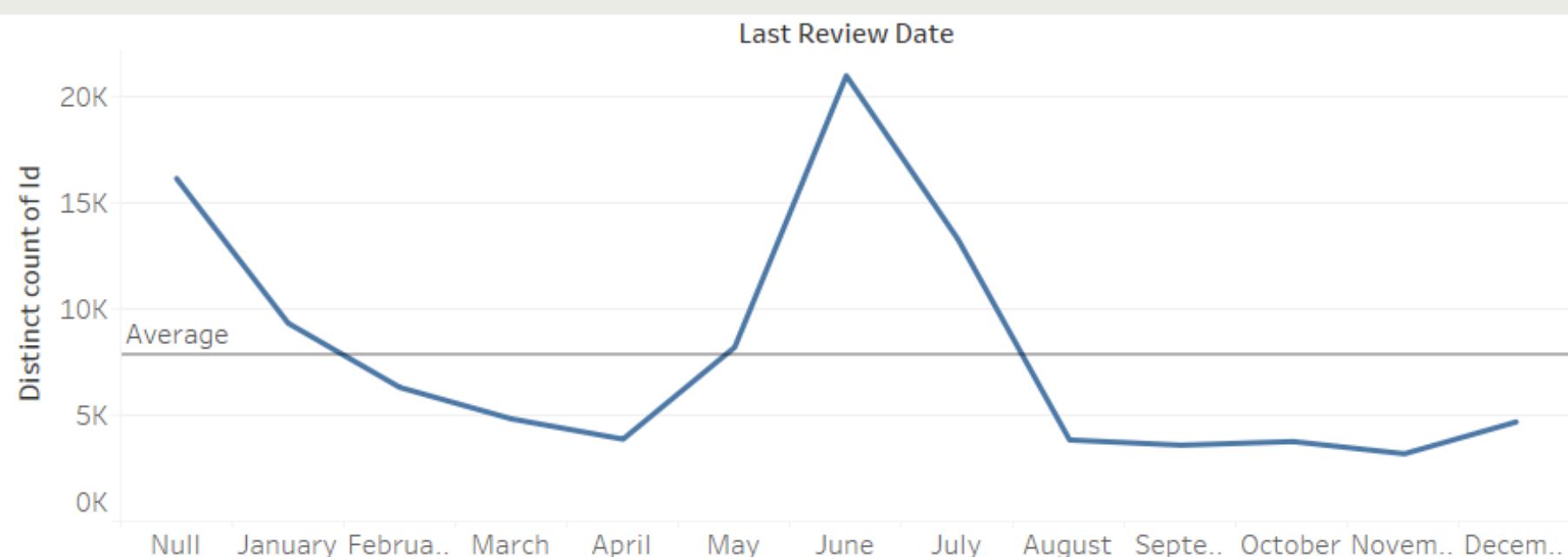
## Airbnb Property Management Optimization



Popularity of airbnbs/most airbnb by Neighbourhood group



## Seasonality & Booking trends



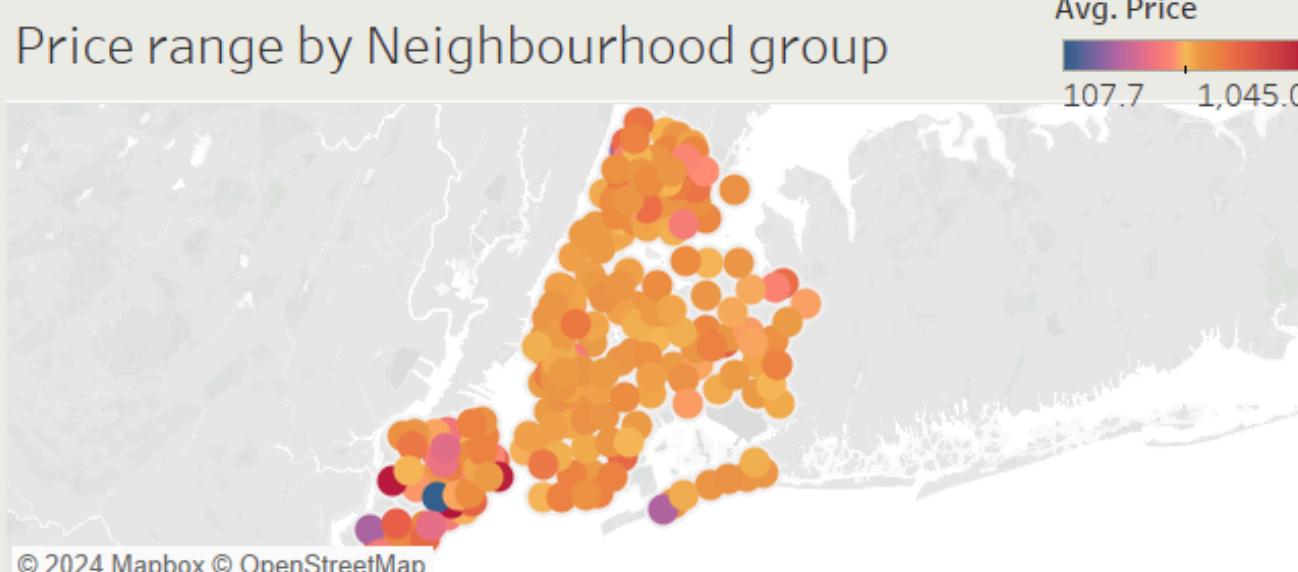
Neighbourhood Group  
(All)

corr\_price\_av host  
listings

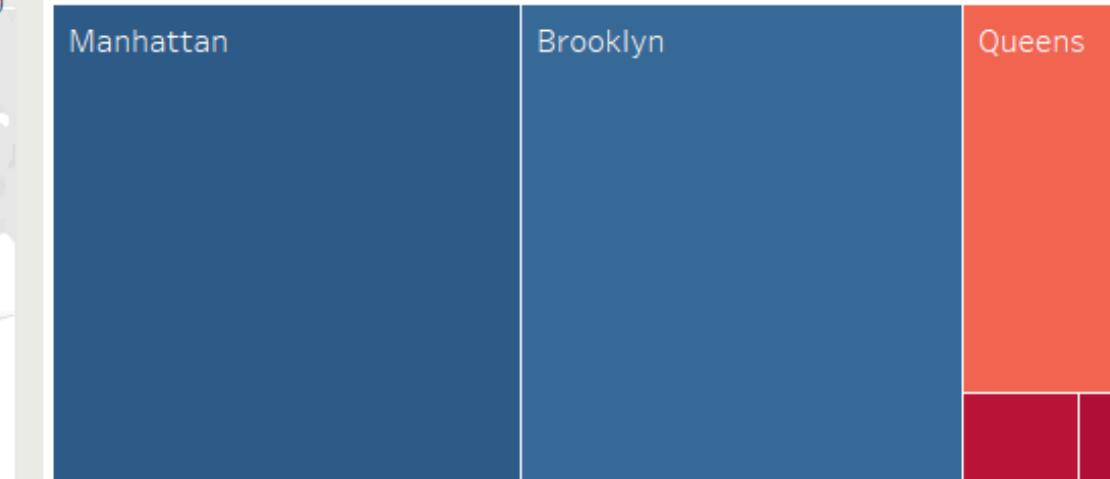
-0.00008811

The correlation b/w price and av host listings is (-0.00008811) which is negligible.

## Price range by Neighbourhood group



## House rules by Neighbourhood groups



Count of House Rules

22 22,031

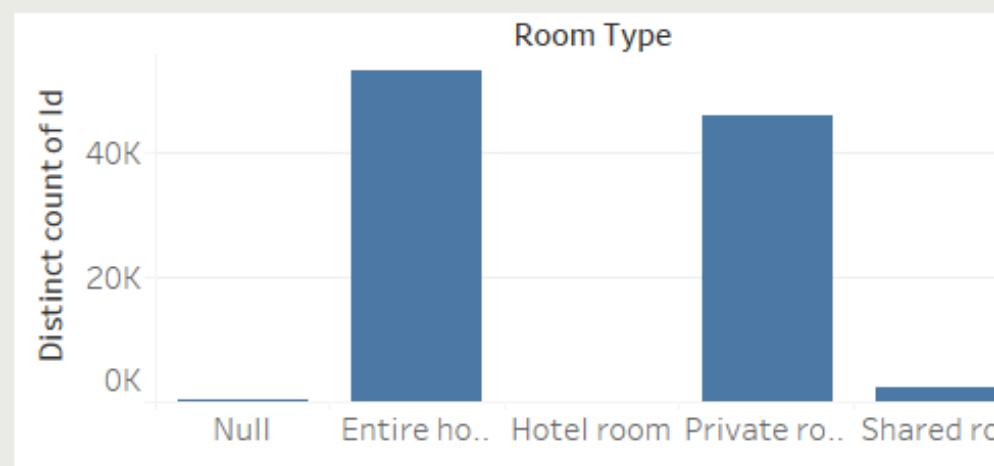
# FACTORS FOR BOOKING

Tableau

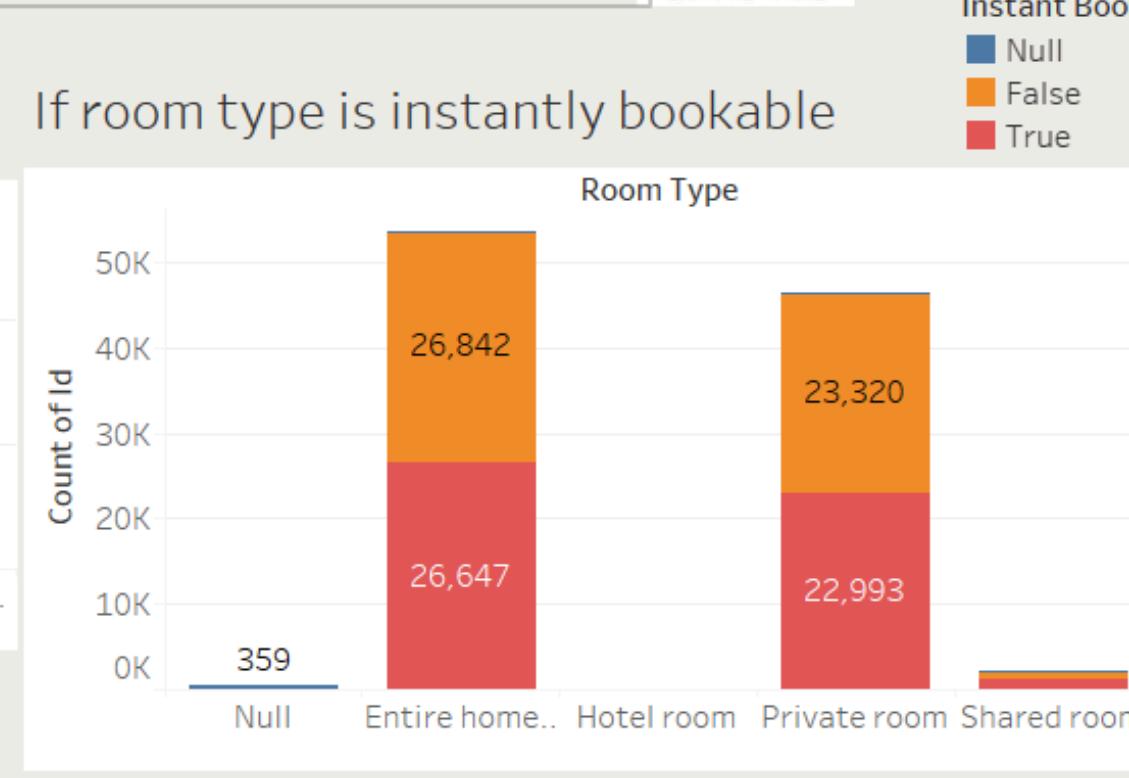
## Airbnb Property Management Optimization



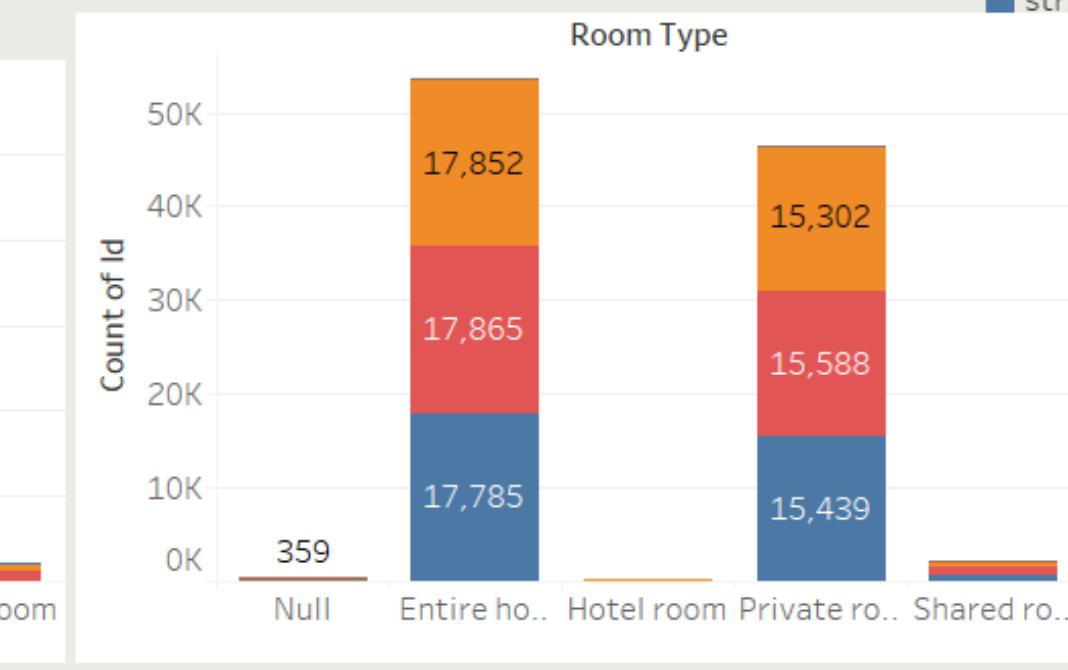
Room type popularity by neighbourhood group



If room type is instantly bookable



Cancellation policy by room type



Neighbourhood Group  
(All)

...

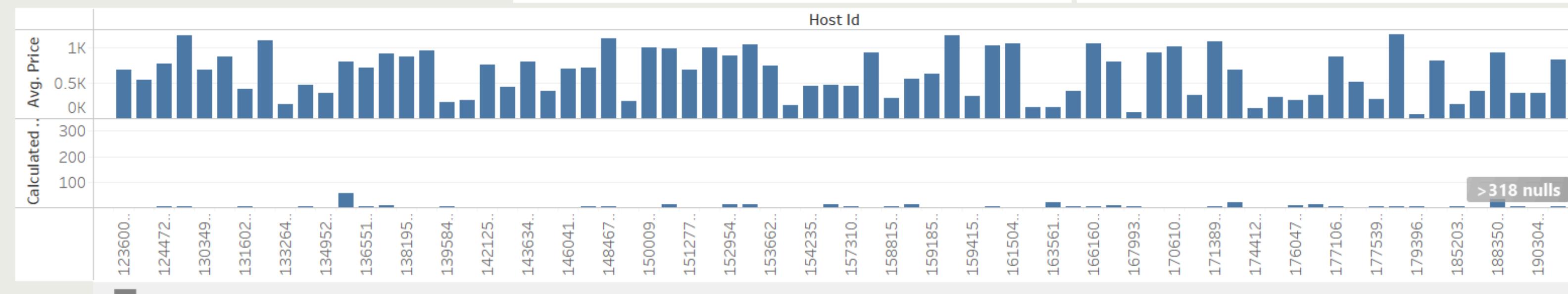
Cancellation P..  
Null  
flexible  
moderate  
strict

Corr\_of\_price  
and reviews

-0.004627

The correlation value between price and review rate per month (-0.004627) is very low and shows that the affect of price is negligible on review rate per month.(So, the relationship is almost neutral which indicates that there could be several other factors affecting the reviews)

Host listings by av. price.





# OBSERVATION & KEY FINDINGS

Tableau



AIRBNB



## Room Type Popularity by Neighborhood Group:

- Entire homes and private rooms are the most popular room types across all neighborhoods, with the highest concentration in Manhattan and Brooklyn.
- Shared rooms have a negligible presence, indicating lower demand.

## Instant Bookability by Room Type:

- A large portion of entire homes and private rooms are available for instant booking, with Manhattan having the highest proportion. This provides convenience to guests, making it easier to secure accommodations quickly.
- Hotel rooms and shared rooms show limited instant bookability options.





# OBSERVATION & KEY FINDINGS

Tableau



AIRBNB



## Cancellation Policy by Room Type:

- The most common cancellation policies for **entire homes and private rooms** are flexible and moderate, allowing guests more flexibility to change plans.
- **Strict cancellation policies** are less common but still significant for certain higher-priced listings.

## Host Listings by Average Price:

- Hosts with **multiple listings** tend to charge higher prices. There is a notable variation in prices among hosts, particularly those with more than 50 properties.
- **Manhattan** hosts generally have the highest average prices





# OBSERVATION & KEY FINDINGS

Tableau



AIRBNB



## Correlation of Price and Reviews:

- The correlation between price and review rate per month is almost negligible (**-0.0046**). This indicates that pricing does not significantly impact reviews, meaning other factors, such as the **guest experience or location**, might play a larger role in determining guest satisfaction.

## Neighborhood Analysis:

- Popular neighborhoods like **Manhattan** and **Brooklyn** host the majority of listings, with Queens and Staten Island contributing much fewer.
- Manhattan sees the highest average prices, followed by Brooklyn, indicating a premium associated with these areas.



# ADDITIONAL INSIGHTS :

Tableau



## Additional Correlations:

- **Price vs. Availability:** Higher-priced properties often have lower availability, suggesting that premium listings are either more exclusive or booked further in advance.
- **Price vs. Ratings:** No strong correlation was found between listing price and the rating received, implying that even lower-priced properties can achieve high ratings with good service.

## Seasonality Trends:

- There is a noticeable **seasonal fluctuation in bookings**, particularly in **Manhattan**, where demand spikes during tourist-heavy months (summer and holiday seasons).
- **Private rooms and entire homes** see higher bookings during peak seasons, with some flexibility in pricing during off-peak periods to maintain occupancy rates.



Data Analysis



Thankyou.

LET'S CONNECT & WORK  
**TOGETHER!**



[shivaninagar2nd@gmail.com](mailto:shivaninagar2nd@gmail.com)



[Linkedin](#)

