

Storytelling Case Study: Airbnb, NYC

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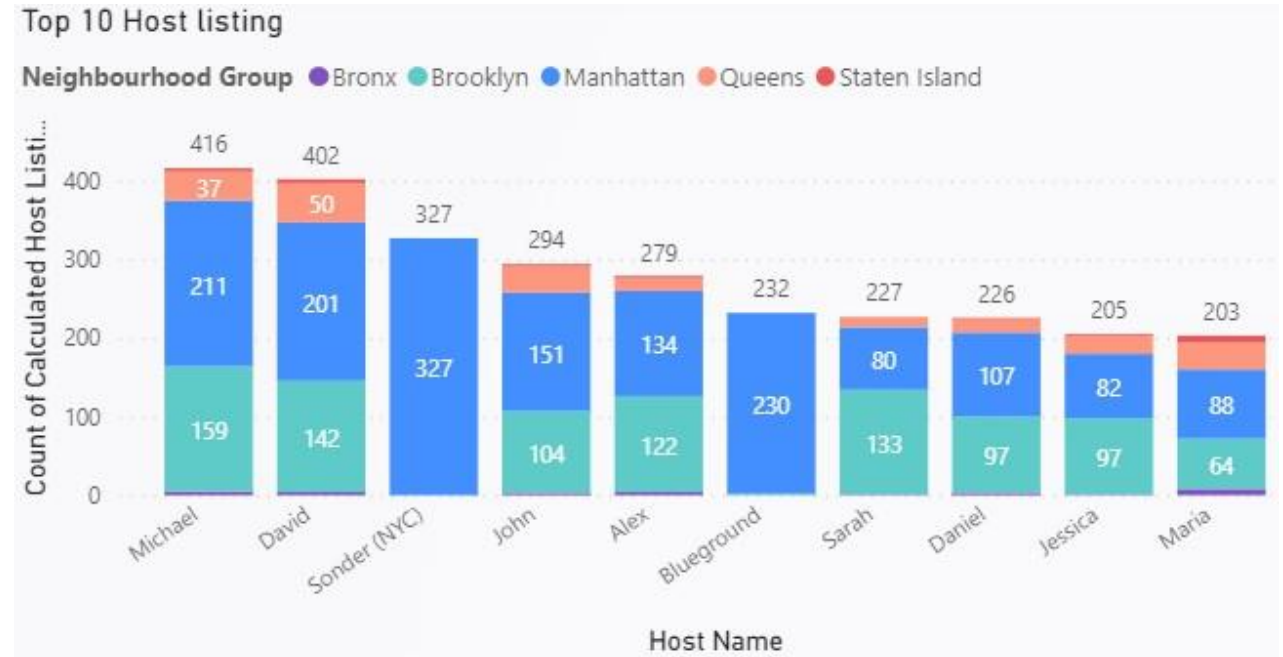


Objective:

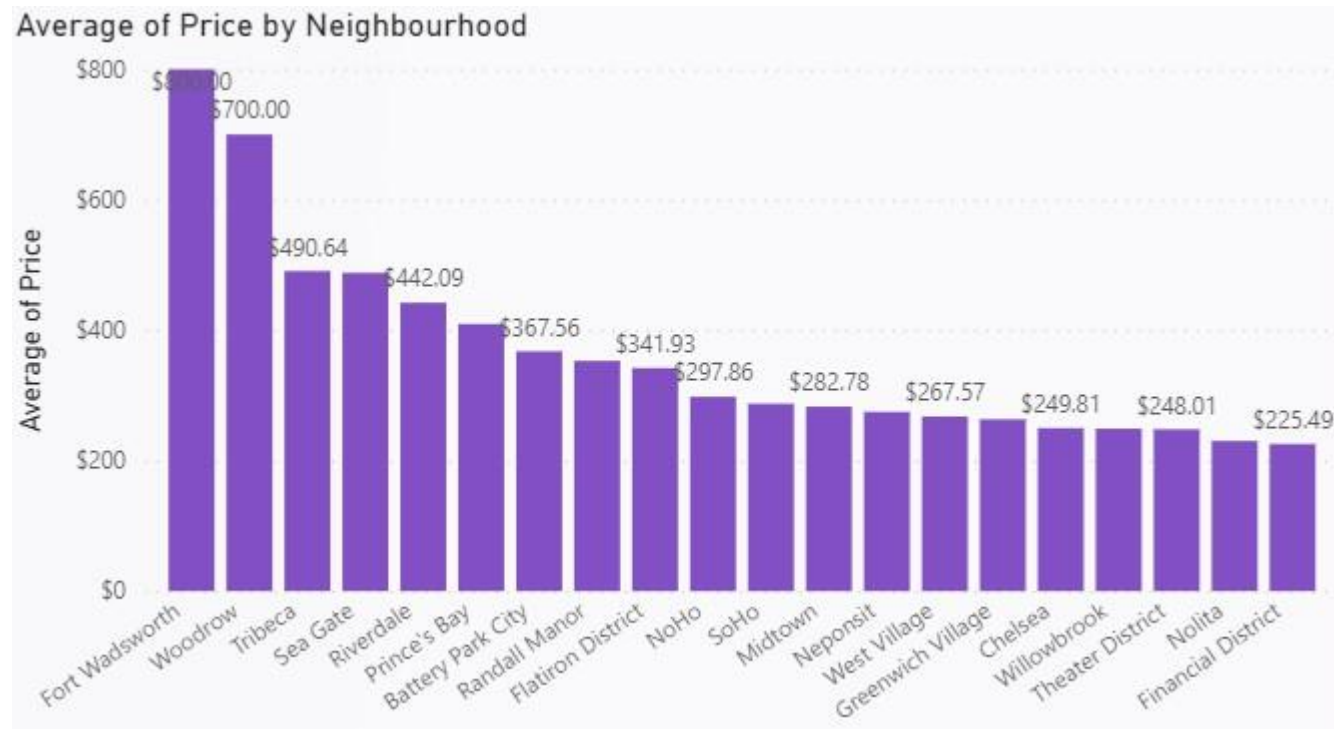
- Over the last few months, there has been a significant drop in revenue for Airbnb.
- With the lifting of restrictions, Airbnb wants to ensure it is well-prepared for the changes.
- To identify the next best steps for Airbnb, we need to examine a dataset of various Airbnb listings in New York.
- Our aim is to minimize the economic and commercial impacts of Covid-19 on Airbnb in New York City by improving our strategy.
- When the pandemic struck, we realized that we needed to prioritize our core business of hosting - which is the essence of Airbnb - and understand what makes it unique: everyday people hosting their homes and offering experiences.
- Provide early recommendations for adjustments to existing properties to enhance the customer experience.
- Airbnb's revenue has experienced a significant decline in recent months due to the COVID-19 pandemic and the resulting lockdowns that have imposed travel restrictions, leading to a significant reduction in the company's income.
- Now that the restrictions are being lifted, it is important for the business to be well-prepared to recover from the financial losses incurred during the pandemic.
- To achieve this, an analysis has been conducted on a dataset comprising various Airbnb listings in New York.

Hosts with most listings

- In the given data, Michael has the highest number of host listings, with a total of 416.
- Followed by Maria who has 203 listings, ranking in the top 10.
- Blueground hosts 232 listings, placing them somewhere in the middle of the list.

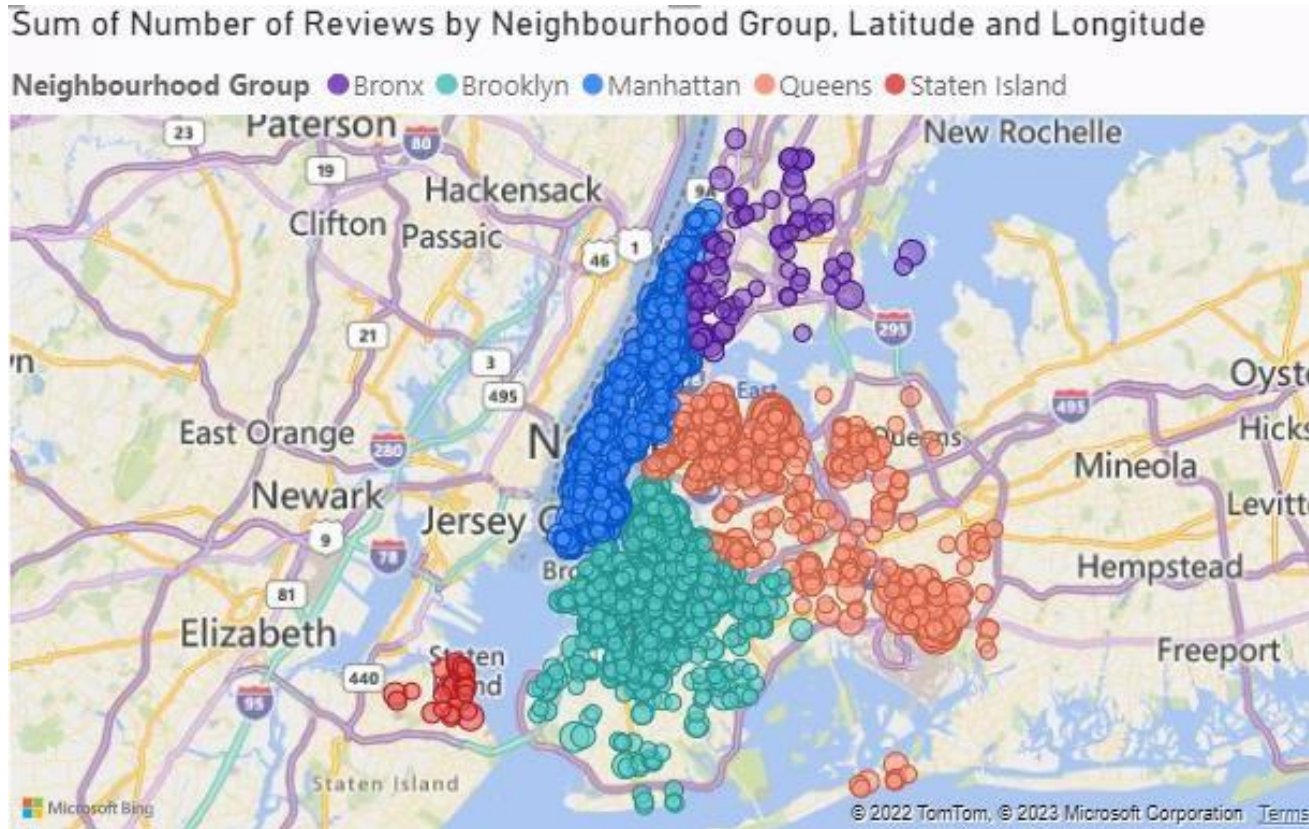


Average Price of Neighbourhood



- Fort Wadsworth and Woodrow, both located in Staten Island, are the two neighbourhoods with the highest average property prices.
- Tribeca and Battery Park City, both in Manhattan, are among the top 20 neighbourhoods with the highest average property prices, with Manhattan having a total of 12 neighbourhoods in the top 20.
- The top 20 neighbourhoods with the highest average property prices include only one neighbourhood each from Brooklyn, Queens, and the Bronx, namely Sea Gate, Riverdale, and Neponsit, respectively.

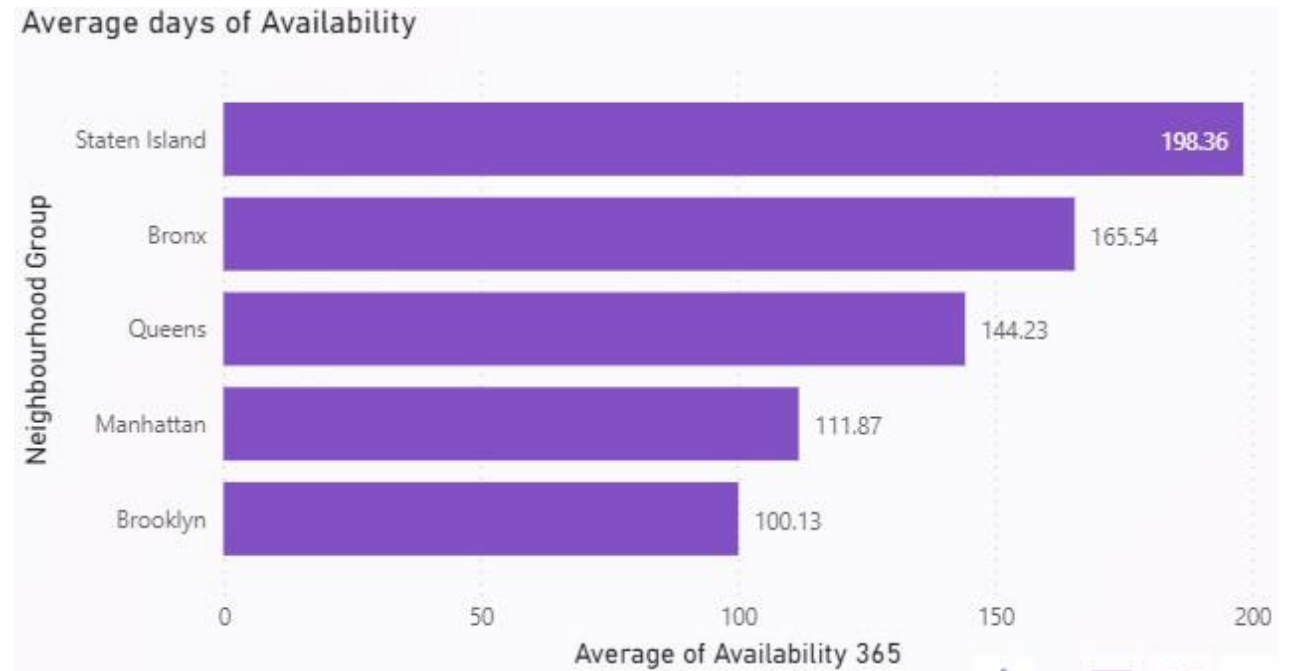
Neighbourhood group with the most Reviews



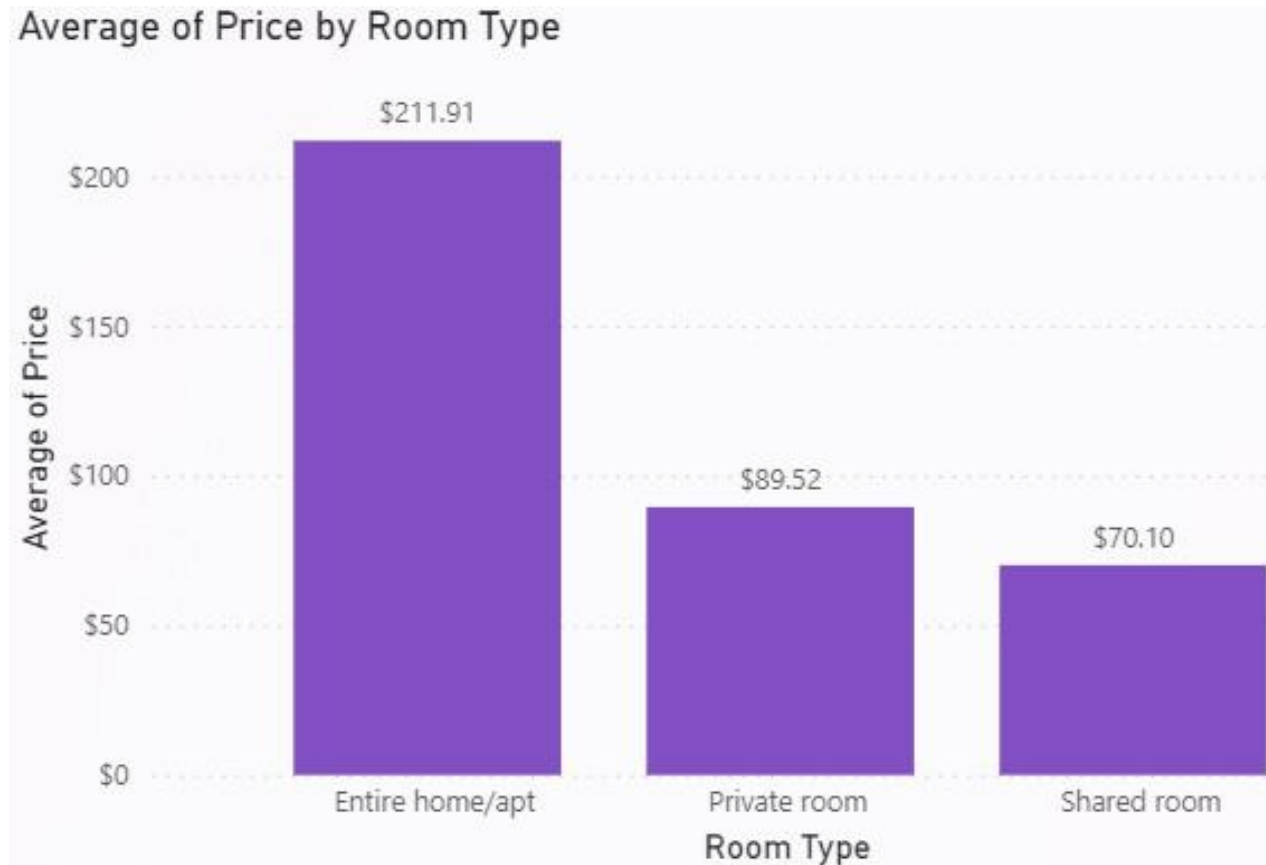
- The scatter plot shows the relationship between the sum of number of reviews by neighbourhood group and the longitude and latitude coordinates. Each point represents a neighbourhood in the dataset, with the colour of the point indicating the neighbourhood group.
- Most reviews are for properties located in Manhattan, with Sonder (NYC) having the highest number of reviews.
- It is important to inform hosts in non-Manhattan neighbourhoods about the importance of receiving reviews, since many bookings are based on reviews. The reason being that Queens and Brooklyn are rarely represented in the list of top reviewed neighbourhoods, while Staten Island and the Bronx are absent altogether.

Average Days of Availability

Staten Island has the highest average number of days available throughout the year, with an average of approximately 198 days. On the other hand, Brooklyn has an average availability of only around 100 days per year, which could suggest that it is either the most in-demand or has the least availability among the boroughs.



Average Price for Room types



It is evident that an Entire Home or Apartment is the most expensive type of room available, with an average price of \$211.91. Private rooms, with an average price of \$89.52, are relatively more affordable, while shared rooms are the least expensive, with an average price of \$70.10 per night.

Average prices of Room types in the listed Neighbourhood groups

Manhattan and Brooklyn have the highest average prices for Entire Home or Apartment in the area, with prices over \$200 and \$170, respectively. On the other hand, Bronx and Queens have the most affordable prices for Entire Home or Apartment, with prices of \$128.02 and \$147.14, respectively.



Insights:

- The Bronx and Staten Island have the least expensive rental properties, while Manhattan and Brooklyn have the most expensive properties listed.
- In the given dataset, 52.02% of the listed properties are Entire home/apartment, 45.61% are Private room, and only 2.37% are Shared room.
- Manhattan has the highest number of Airbnb property listings, followed by Brooklyn.
- The average price for an Entire home or apartment in Manhattan and Brooklyn is over \$200 and \$170, respectively, making them the most expensive types of Airbnb properties in the area.
- It is clear that the most expensive type of room available in the dataset is an Entire home or apartment, with an average price of \$211.91.

Appendix: DATASET

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

The New York Airbnb Dataset contains data on a range of Airbnb listings, such as the hosts, locations, pricing, and other features. The dataset's column headers are clear and easy to understand. We examined the dataset description on the right-hand side to enhance our comprehension of each column's meaning.

DATA Methodology followed:

The data analysis process for the provided Airbnb dataset involved the following steps:

1. Identifying and addressing any outliers, missing, or null values in the dataset through cleaning procedures.
2. Conducting exploratory data analysis (EDA) to investigate the dataset's features, including Price, Availability, Neighbourhood Groups, Hosts, Room Type, and Listings.

DATA ASSUMPTION:

The data provides evidence that the company was able to achieve its goals and generate profits before the Covid-19 pandemic.

With travel now gradually becoming possible once again, the company can focus on developing more effective marketing and business strategies to increase its profitability.

CONCLUSION:

The 2019 dataset was a comprehensive source of data, containing various columns that enabled us to perform extensive data analysis on each crucial variable. During our analysis, we identified hosts who effectively leveraged the Airbnb platform to offer the most listings. Our top host had a whopping 327 listings. We further scrutinized the data to determine neighborhood listing densities and identified the most popular areas. By utilizing the latitude and longitude columns, we created a geographical heat map that was color-coded based on the price of listings.

Thank you