



Property Management Optimization Using Tableau

About The airbnb

Airbnb is an online platform that connects people looking to rent out their homes or properties with individuals seeking short-term accommodations. It was founded in 2008 by Brian Chesky, Joe Gebbia, and Nathan Blecharczyk in San Francisco, California. The platform has since grown into one of the largest peer-to-peer lodging marketplaces in the world, offering a wide range of unique stays and experiences.



Welcome to Airbnb

a note or letter that hosts send to their guests to welcome them to their property. It's a key part of the guest experience and can help create a positive connection.

What to include

- Welcome: A warm greeting and thank you for booking
-
- Contact information: Your phone number and local emergency services number
-
- Check-in and check-out: Details on when guests can check in and out
-
- Property address: The exact address of the property and directions to get there
-
- House rules: Whether pets, alcohol, or parties are allowed
-
- Appliance instructions: How to use the heating, cooling system, and other appliances
-
- WiFi: The password and connection details
-
- Local recommendations: Tips on local food, attractions, and culture
-
- Safety notices: Any safety notices for the property

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Project Statement

You are working as a Data Analyst at Airbnb, and Airbnb aims to develop a Tableau dashboard to optimize rental strategies, enhance customer satisfaction, and maximize revenue for property owners. Your role is to analyze Airbnb's dataset and generate valuable insights that will help improve decision-making for both Airbnb and its hosts.

Problem Statement

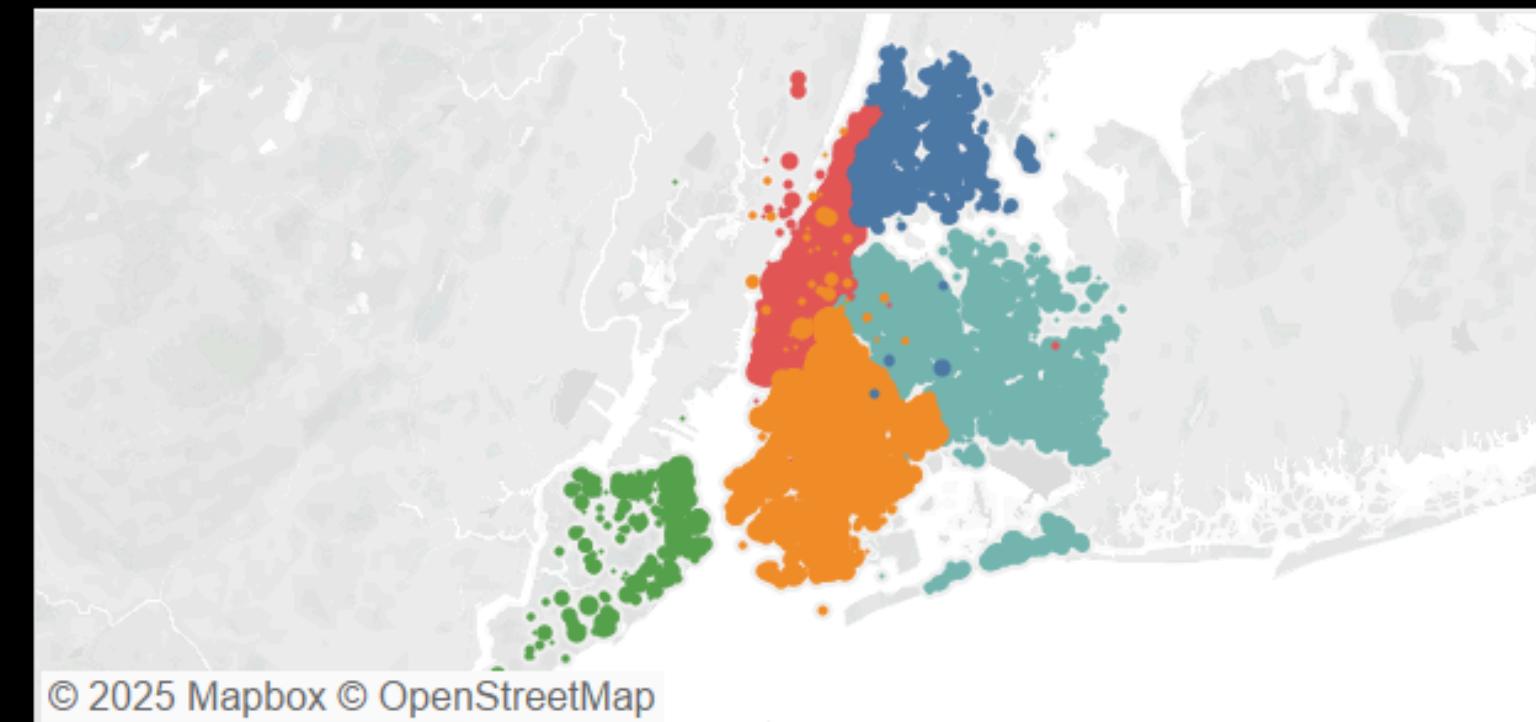
Airbnb seeks to optimize its rental strategies, enhance customer satisfaction, and maximize revenue for property owners. However, understanding key factors that influence pricing, demand, and customer satisfaction across various neighborhoods, property types, and amenities is challenging. Additionally, identifying top-performing hosts and their strategies requires deeper insights into the dataset.

TABLEAU DASHBOARD FOR AIRBNB

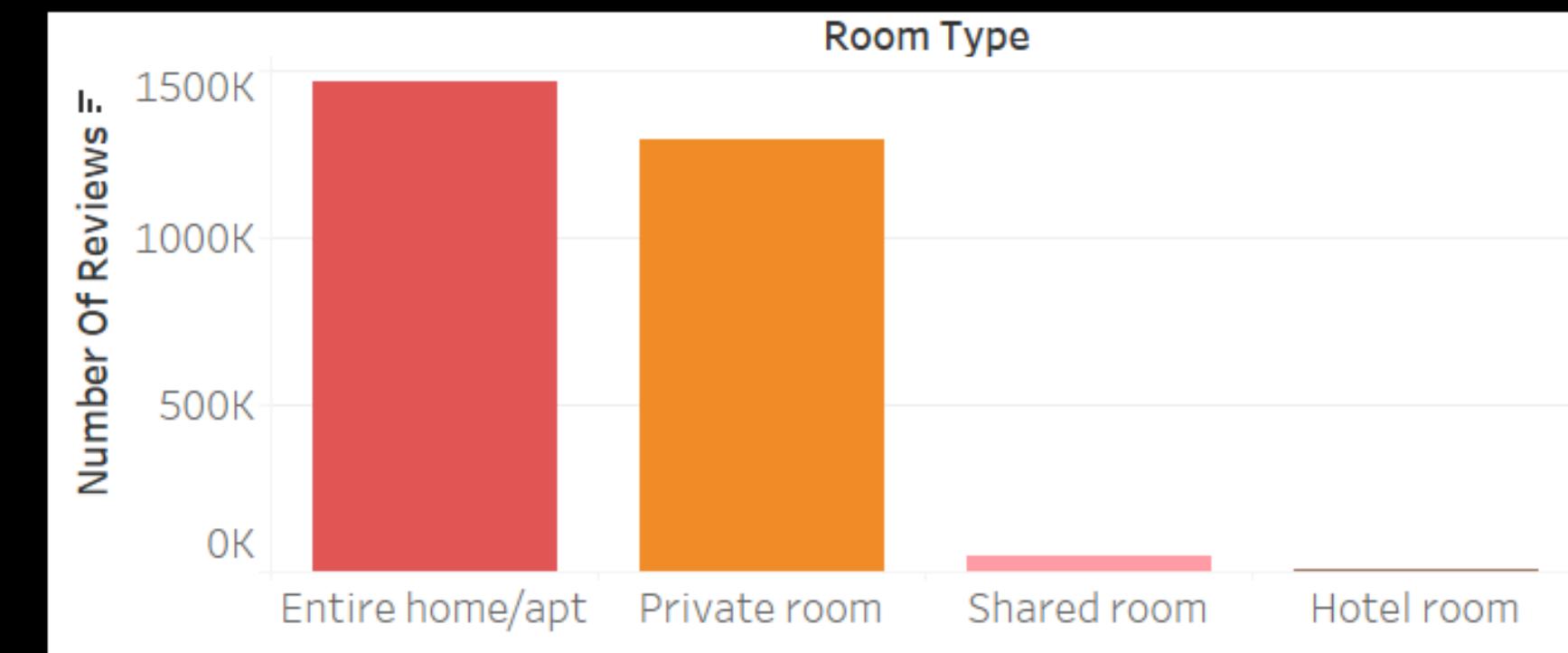


Airbnb Analytics: Neighborhood and Room Type Insights in NYC

Impact of Neighborhood Group



Distribution of Reviews Across Room Types



Neighbourhood..

- Bronx
- Brooklyn
- Manhattan
- Queens
- Staten Island

Property price

- 50
- 5,000
- 10,000
- 15,000
- 19,291

Avg. Property p..



Average Prices by Neighborhood Group

Neighbourhood Group	Avg. Price
Bronx	629.111
Brooklyn	626.363
Manhattan	622.141
Queens	629.168
Staten Island	623.733

Review Rates by Room Type and Neighborhood

Neighbo... hood	Entire home/apt	Room Type		
		Hotel room	Private room	Shared room
Bronx	3.3531		3.3269	3.3083
Brooklyn	3.2496	3.7500	3.2651	3.3257
Manhattan	3.2727	3.5000	3.2767	3.2555
Queens	3.3515	3.7500	3.3113	3.3917
Staten Isl...	3.3235		3.4567	3.5333

Room Type

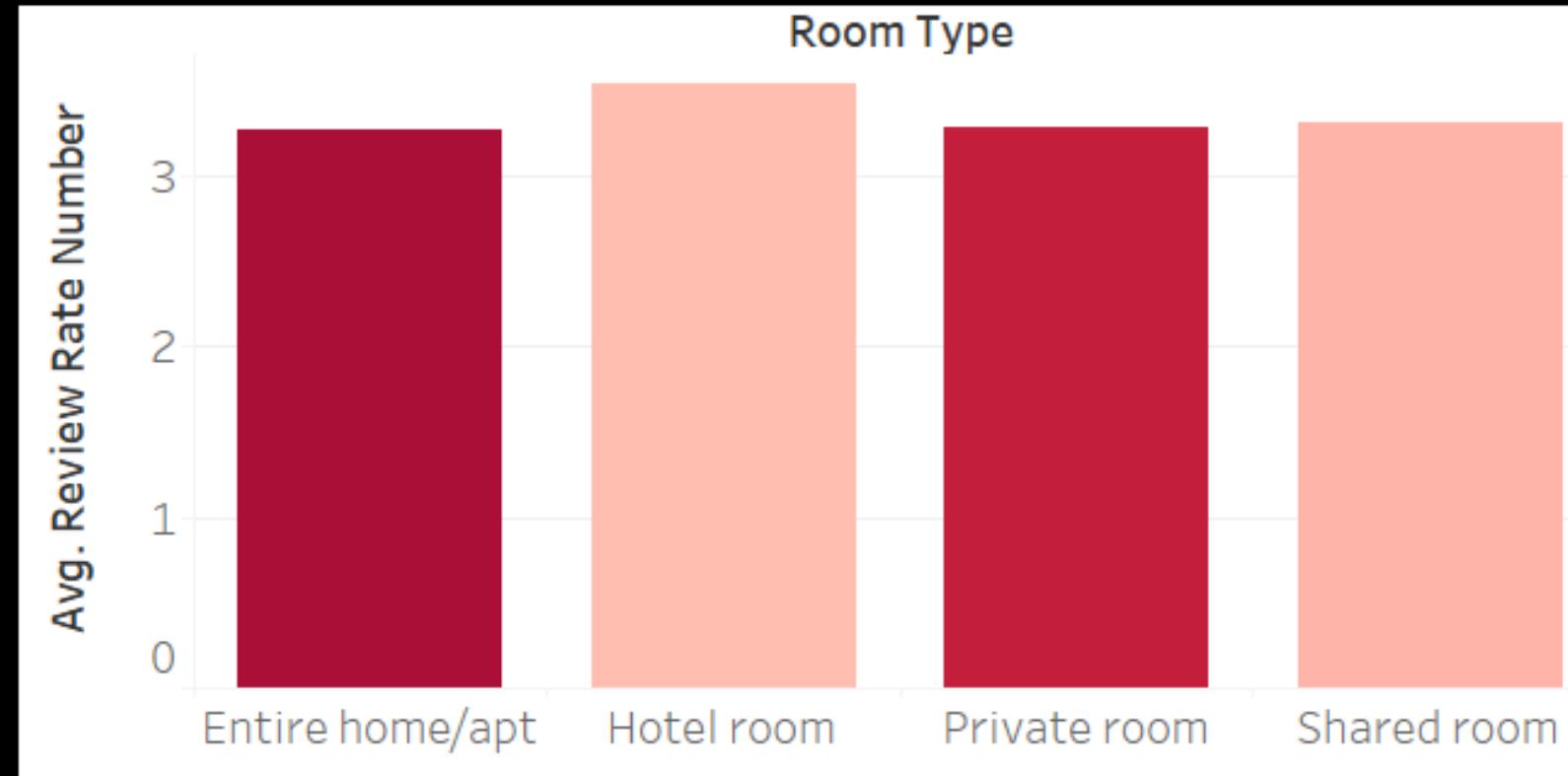
- Entire home/..
- Hotel room
- Private room
- Shared room

Review Rate N..

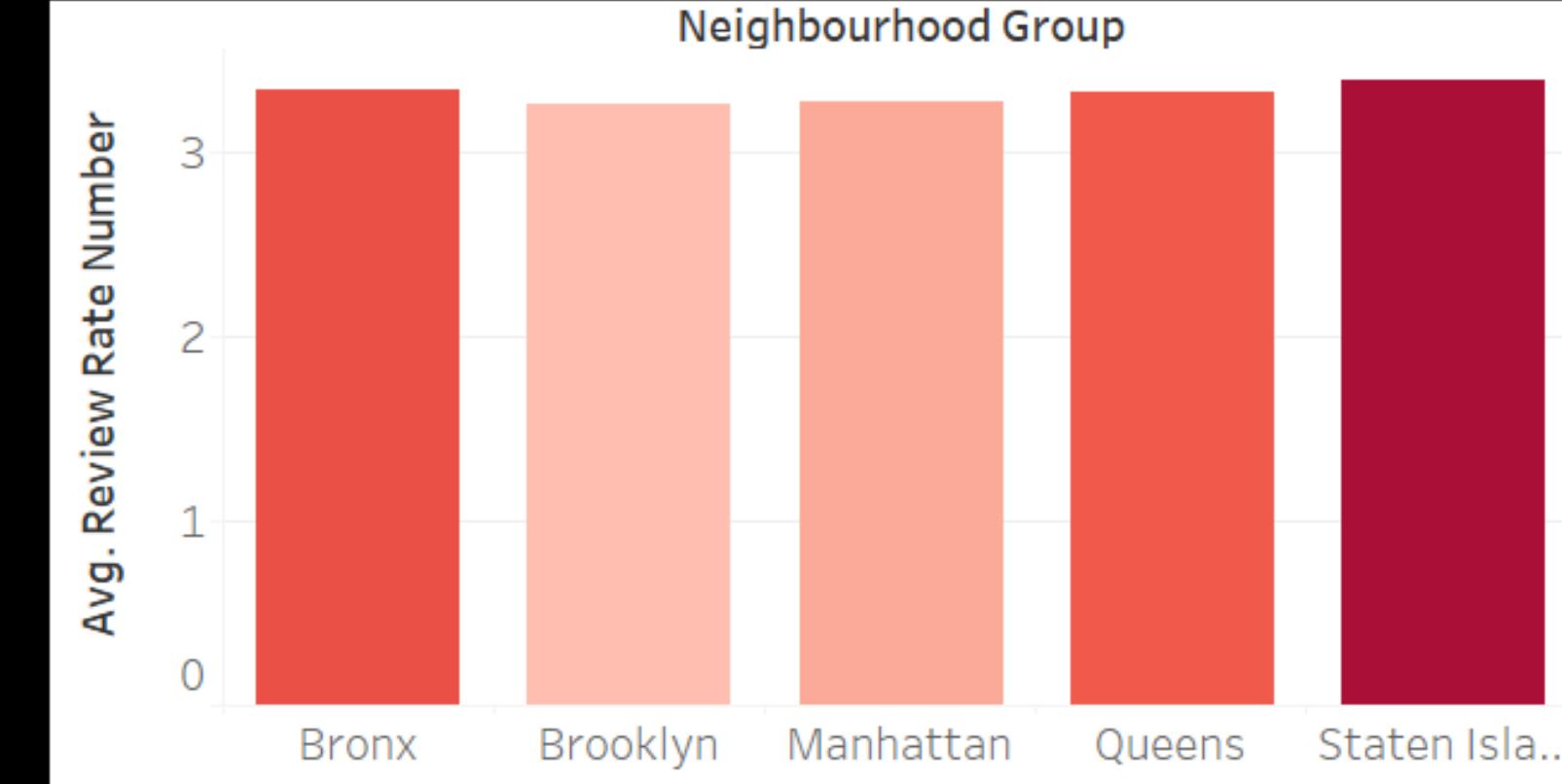


Insights into Room Types, Neighborhoods, and Customer Preferences

factors contributing to higher Room Type

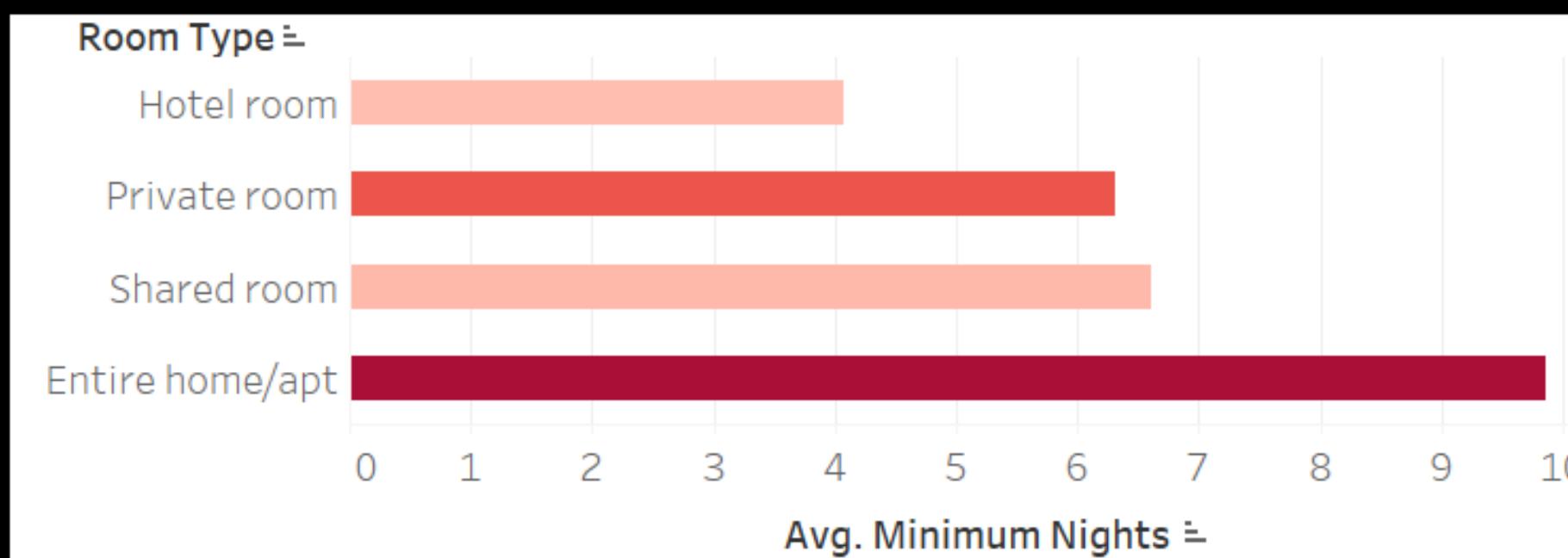


factors contributing to higher Neighbourhood



Review Rate N..
410 176K
Avg. Review Ra..
3.2588 3.3916
Minimum Nights
473 530K

Minimum Nights Stayed



Correlation between Price and customers ratings

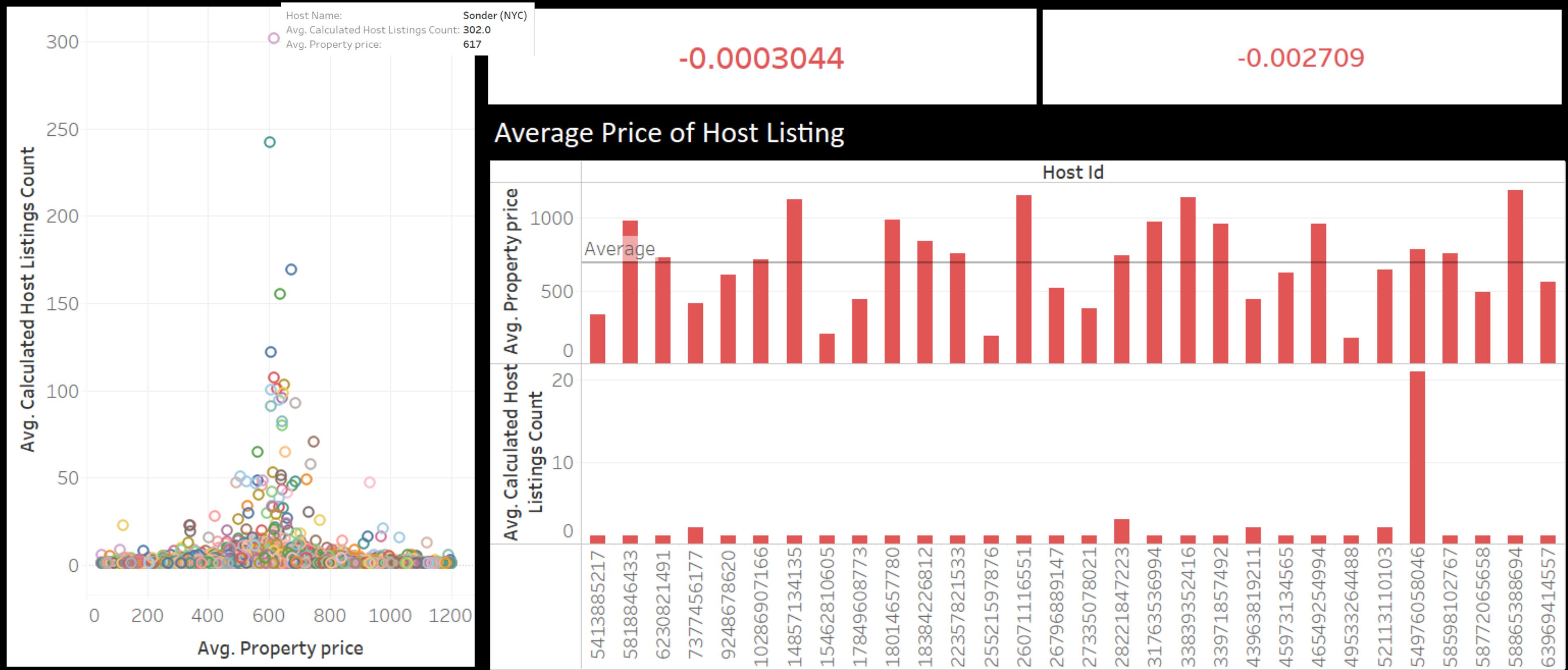


Insights into Property Prices and Host Listing Trends

Highest number of listings and Price

Correlation between Price and Host Listings

Highest Correlation year for Host Listings



Airbnb Analytics: Neighborhood and Room Type Insights in NYC

1. Impact of Neighborhood Group

- The map highlights property distribution and average prices across different boroughs: Bronx, Brooklyn, Manhattan, Queens, and Staten Island. The size of the points correlates with property prices.

2. Distribution of Reviews Across Room Types

- Entire homes/apartments dominate the review count, followed by private rooms. Shared rooms and hotel rooms have significantly fewer reviews.

3. Average Prices by Neighborhood Group

- Average prices are fairly consistent across boroughs, hovering around \$622.141-\$629.168
- Manhattan and Bronx have slightly higher average prices compared to others.

4. Review Rates by Room Type and Neighborhood

- Review rates vary based on room type and neighborhood.
- Staten Island has the highest review rates for shared rooms (3.3531) and private rooms (3.3269).
- Hotel rooms Entire home/apt have the highest review rates (3.3531).



Insights into Room Types, Neighborhoods, and Customer Preferences

1. Factors Contributing to Higher Ratings by Room Type:

- Different room types (Entire Home/Apt, Hotel Room, Private Room, Shared Room) show varying average review ratings, with Hotel Rooms and Private Rooms generally receiving higher ratings.

2. Factors Contributing to Higher Ratings by Neighborhood Groups

- Ratings are analyzed across neighborhoods (Bronx, Brooklyn, Manhattan, Queens, Staten Island), with Staten Island and Bronx slightly leading in average review ratings.

3. Minimum Nights Stayed:

- Average minimum nights stayed varies by room type, with Entire Home/Apt having the highest average minimum nights required.

4. Correlation Between Price and Customer Ratings

- There is a negligible negative correlation (-0.004870) between price and customer ratings, suggesting price does not significantly impact ratings.

Summary Statistics

- Review Rate Numbers: Range from Minimum hotel room = 410 and Maximum Entire home/apt = 175,880
- Average Review Ratings: Minimum Brooklyn = 3.2588 and Maximum Staten Island = 3.916
- Minimum Nights Stayed: Ranges from minimum Nights Stayed = 473 and maximum Nights Stayed



Insights into Property Prices and Host Listing Trends

1. Highest Number of listing and price

- Shows the relationship between average property price and the count of listings for hosts.
- The distribution appears clustered, with most hosts having lower property prices and fewer listings.

2. Correlation Metrics

- Correlation between average price and the number of host listings is -0.0003044 , indicating virtually no relationship.
- The highest yearly correlation for host listings is slightly stronger but still negligible at -0.002709 .

3. Average Price of Host listing

- Displays the average property price for different host IDs along with their respective listing counts.
- Some hosts have significantly higher prices, while the majority are close to the average.



Conclusion

Effective Airbnb property management requires a strategic approach to optimizing both operational efficiency and guest satisfaction. By focusing on key areas such as dynamic pricing, targeted marketing, streamlined communication, and maintenance processes, property managers can significantly enhance their profitability and host ratings.

Leveraging data-driven tools, like analytics platforms and automated pricing algorithms, ensures a competitive edge in the short-term rental market. Additionally, prioritizing guest experience through personalized touches, timely responses, and well-maintained spaces fosters positive reviews and repeat bookings.

Ultimately, successful optimization balances technological innovation with human-centric hospitality. By continually evaluating market trends and guest feedback, property managers can adapt strategies that ensure sustained growth and superior performance in an ever-evolving industry.

