



Problem Statement

Airbnb property owners and managers face challenges in optimizing their listings to maximize occupancy, enhance guest satisfaction, and increase revenue. With varying guest preferences across room types, locations, booking options, and cancellation policies, it is difficult for hosts to make data-driven decisions that cater to these demands effectively. Additionally, hosts need to understand seasonal booking trends and the impact of host verification on guest trust.

The lack of insights into these factors leads to missed opportunities in terms of higher occupancy, improved ratings, and streamlined operations. Therefore, Airbnb hosts and property managers require a data-driven approach to identify key demand patterns, determine optimal property settings (such as instant booking and cancellation policies), and maximize the appeal of their listings.

Objectives

1. **Identify Demand Patterns:** Understand which room types and neighborhoods have the highest demand to help hosts prioritize and adjust their property offerings.
2. **Optimize Booking Features:** Assess the impact of instant booking on occupancy to determine if enabling this feature will lead to higher booking rates.
3. **Enhance Guest Trust:** Evaluate the influence of host verification on guest satisfaction and trust, and encourage more hosts to verify their identities if needed.
4. **Analyze Seasonal Trends:** Identify peak booking periods to allow hosts to adjust pricing and availability for maximum profitability.
5. **Fine-Tune Cancellation Policies:** Analyze the distribution of cancellation policies to help hosts choose the most appealing and practical options for guests.

Goal

To provide Airbnb hosts with actionable insights through data analysis that enables them to optimize their listings for better occupancy rates, improved guest satisfaction, and enhanced operational efficiency. By leveraging these insights, hosts can make informed decisions on room type offerings, booking policies, and seasonal strategies to align with market demand.

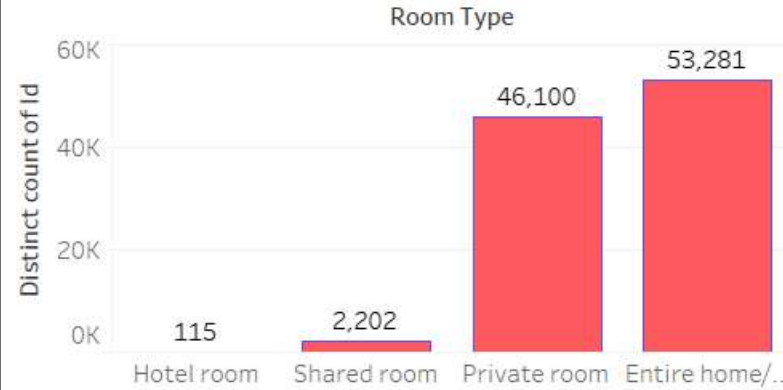


Airbnb Property Optimization Dashboard

Room & Host Analysis

Area Popularity & Pricing

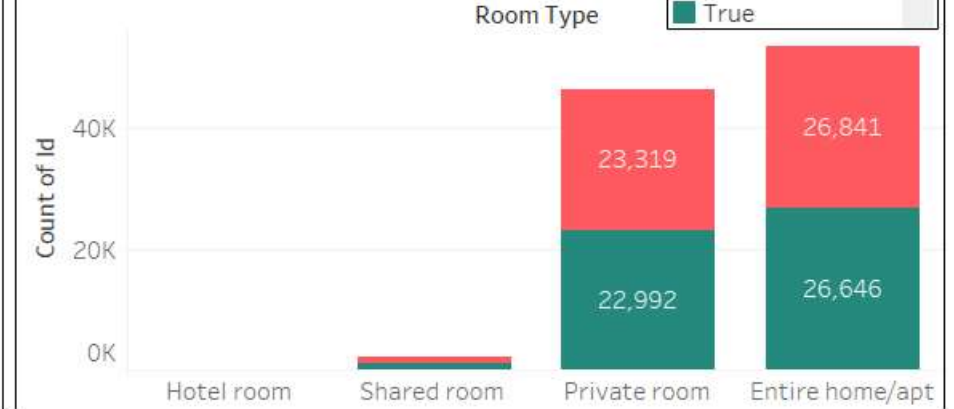
Property Demand based on room type



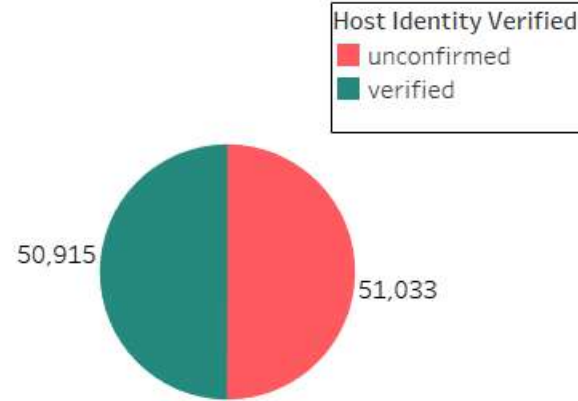
rating by room type based on Neighbourhood

Neighbourh...	Room Type			
	Entire home/a..	Hotel room	Private room	Shared room
Bronx	3.3545		3.3258	3.2650
Brooklyn	3.2500	3.7500	3.2651	3.3370
Manhattan	3.2758	3.5000	3.2768	3.2597
Queens	3.3520	3.7500	3.3126	3.3911
Staten Island	3.3262		3.4738	3.5333

Instant Bookability by room type



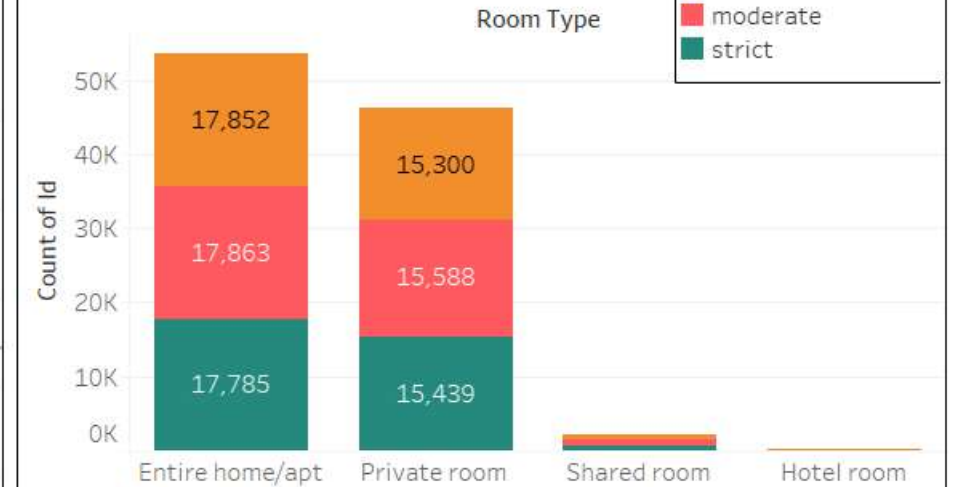
Verified vs unverified host count



Booking Trends Over Months



Cancellation Policy by room type





Airbnb Property Optimization Dashboard

Room & Host Analysis

Area Popularity & Pricing

Neighbourhood Group

(All)

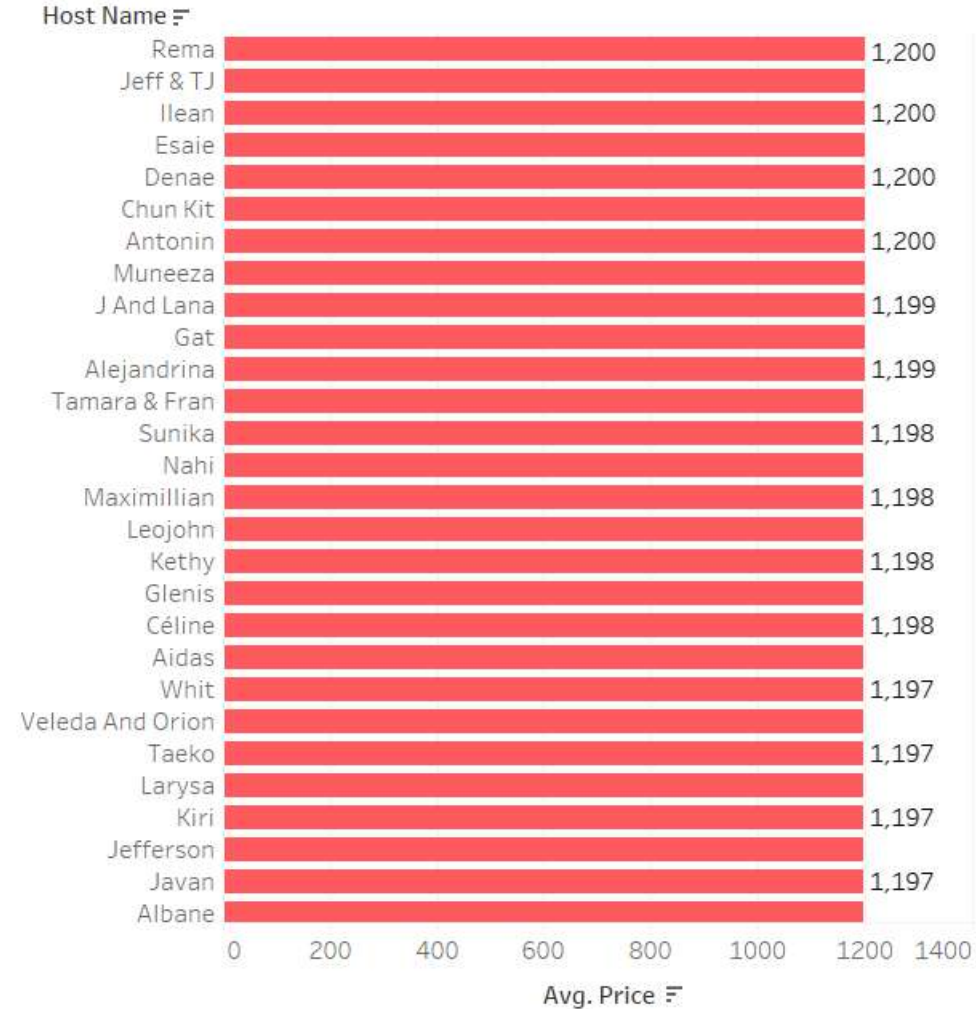
Average price by location



Airbnb Listing Count by Neighbourhood



Number of listing vs average Price



Co-
relation
vs price
and
review

-0.004631

A correlation of -0.004631 means there's very little connection between price and review rating. This indicates that as the price of a listing changes, the review rating doesn't change much, if at all. In simple terms, the price doesn't significantly influence how people rate their experience with the property, showing that other factors likely play a larger role.

Executive Summary

The dashboard provides a comprehensive analysis of Airbnb listings, focusing on property demand, guest preferences, booking trends, and host verification status. It highlights key areas for optimization, such as room type demand, instant booking options, and cancellation policies. By leveraging these insights, Airbnb hosts and property managers can strategically adjust their offerings to maximize occupancy, enhance guest satisfaction, and streamline their operations.

Key Insights and Numbers

1. Property Demand by Room Type:

- **Entire homes/apartments** are the most popular, with **53,281 listings**, followed by **Private rooms** with **46,100 listings**.
- Demand for **Hotel rooms** and **Shared rooms** is significantly lower, at **115** and **2,202** listings, respectively.

2. Guest Ratings by Room Type and Neighborhood:

- Hotel rooms in **Brooklyn** and **Queens** have the highest average ratings, at **3.75**.
- Staten Island's **Shared rooms** have the highest rating overall, at **3.53**.
- Generally, private and shared rooms in Staten Island, Queens, and Manhattan tend to have above-average ratings, while Bronx and Brooklyn show slightly lower ratings for certain property types.

3. Instant Bookability:

- **53%** of entire home/apartment listings offer instant booking, with **26,646 listings** allowing instant booking versus **26,841** that do not.
- Private rooms show a similar split, with **22,992** listings offering instant booking and **23,319** that do not.
- Instant booking is minimally offered in **Shared rooms** and **Hotel rooms**.

4. Host Verification:

- Host verification is evenly split, with **50,915** unverified hosts and **51,033** verified hosts. This indicates that about half of the hosts have taken steps to verify their identity, which may impact guest trust.

5. Booking Trends Over Months:

- Bookings peak in **June** with nearly **20,000 bookings** recorded, while **January** through **March** show the lowest booking activity.
- There is a noticeable drop after June, suggesting a strong seasonal pattern where bookings are highest in early summer.

6. Cancellation Policy by Room Type:

- Entire home/apartment listings have a balanced distribution of cancellation policies: **17,785** with strict, **17,863** with moderate, and **17,852** with flexible policies.
- Private rooms also have a similar distribution, with **15,439** strict, **15,588** moderate, and **15,300** flexible policies.

- Hotel rooms and shared rooms have fewer listings, with flexible policies being slightly more common in shared rooms.

7. Neighborhood Popularity and Pricing:

- Certain neighborhoods, such as Rosedale and Breezy Point, have high concentrations of listings. These areas likely attract significant demand due to their location or amenities.
- Average pricing varies significantly by location, with some neighborhoods showing a much higher average price than others, indicating potential for price optimization in lower-priced areas or increased demand in premium-priced areas.

Recommendations:

- **Focus on Entire Home/Apartment and Private Room Listings:** As these room types are the most popular, hosts should prioritize listing entire homes or private rooms to meet demand.
- **Offer Instant Booking for Popular Room Types:** Increasing the availability of instant booking for entire homes and private rooms could improve booking rates, as many guests prefer the convenience.
- **Adjust for Seasonal Demand:** Given the spike in bookings in June, consider increasing rates or optimizing listing visibility during the peak summer months.
- **Evaluate Cancellation Policies:** Since there's a balanced demand across cancellation policies, hosts could experiment with offering more flexible or moderate cancellation terms to attract more bookings without significantly impacting revenue.

This dashboard offers actionable insights for Airbnb hosts to improve their offerings and adjust their strategies based on demand, guest preferences, and seasonal booking trends.

Project link:

https://public.tableau.com/app/profile/pankaj.kumar1384/viz/Book1_17303082040020/Dashboard1?publish=yes