

# **AIRBNB INSIGHTS: Analyzing 5 Million Reviews and 250,000+ Listings Across 10 Cities**

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# Tools

- DataBricks
- Apache Spark
- SQL
- DATASET - link

# Objective

AIRBNB REQUESTED INSIGHTS: The aim is to extract valuable findings and recommendations that can contribute to the overall enhancement of Airbnb's services and strategies.

Requests:

1. *Maximize Revenue*
2. *Enhance Host Engagement*
3. *Improve Guest Satisfaction*
4. *Strategic Planning*

# Analysis Questions

**As a data analyst for AIRBNB, I have produced these questions to help gain insights and hopefully lead to better strategic decisions.**

## **1. Pricing Patterns:**

- What are the average prices across the 10 major cities?
- How do prices vary between different room types and neighborhoods?

## **2. Host Characteristics:**

- What are the characteristics of Airbnb hosts in these cities?
- How do superhosts differ from regular hosts, and what impact do they have on pricing and reviews?

## **3 . Review Sentiment Analysis:**

- How do guests generally feel about their Airbnb stays based on reviews?
- Are there common themes or factors that contribute to positive or negative reviews?
- Investigate the popularity of each room type based on user reviews

## **4. Emerging Trends and Recommendations:**

- Are there any unexpected trends or insights that could shape future Airbnb strategies?
- Based on the analysis, what recommendations can be made for hosts or potential guests?

Please note these will not be answered directly but I will be able to direct my findings here.

# Pricing Patterns

- **Market Diversity and Attraction:** The diverse range of prices reflects the variety of markets Airbnb serves. This can be advantageous as it allows Airbnb to cater to a broad spectrum of travelers with different budget preferences.
- **Competitive Advantage in Affordability:** Cities like Istanbul, with notably low average prices, can position Airbnb as a more cost-effective alternative compared to traditional accommodations. This affordability may attract budget-conscious travelers and contribute to Airbnb's competitive advantage.
- **Revenue Potential in High-Cost Cities:** On the flip side, cities like Sydney and Rio de Janeiro, with higher average prices, may contribute significantly to Airbnb's revenue.

## Consideration/ Potential Problems:

- **Regulatory Challenges:** High prices in certain cities may exacerbate regulatory scrutiny. Cities with soaring average prices may face increased regulatory pressure due to concerns about affordability and housing shortages.
- **Strategic Pricing Considerations:** Airbnb must carefully navigate pricing strategies. While affordability is attractive, excessively low prices in certain markets may raise questions about quality and safety, potentially affecting the overall brand perception.

# Seasonality

- **Year-End Surges:** Months such as November and December (11, 12) exhibit notable review counts, which might be associated with increased travel and accommodation bookings during the holiday season
- **Lowest Activity in January:** The review count for January (1) is substantially lower compared to other months. This could be attributed to reduced travel activity following the holiday season or potential lulls in tourism during the winter.
- **Seasonal Trends:** The review counts for each month suggest potential seasonal patterns in user activity. For instance, higher review counts in months like June, July, and August (6, 7, 8) may indicate increased Airbnb usage during summer months, which could be influenced by vacation periods and travel trends.
- **Mid-Year Variability:** The mid-year months, particularly May (5) and June (6), show lower review counts compared to adjacent months. This could be indicative of seasonal variations or factors influencing travel during these specific periods.

# Host Characteristics

- **Host Activity Levels:** The high average listings per host in cities like Hong Kong and Sydney suggest a robust and active hosting community, potentially indicating a thriving market with diverse accommodation options.
- **Market Competitiveness:** The lower average listings per host in cities such as New York might imply a more competitive market where hosts manage fewer listings on average. This could be influenced by factors such as regulatory constraints or a higher level of competition among hosts.
- **Regulatory Influence:** Cities with lower average listings per host, such as New York, might be influenced by regulatory measures that limit the number of listings a host can manage, potentially impacting the overall hosting landscape.
- **Superhost Status Impact:** The data indicates a notable correlation between superhost status and both average pricing and guest satisfaction. Superhosts, denoted by "t," command the highest average price and receive the highest average ratings. This suggests that the superhost designation positively influences both pricing strategies and guest experiences.
- **Guest Perception and Pricing:** The trend of higher average ratings associated with superhosts aligns with the observed higher average pricing for superhost listings. This indicates that guests might be willing to pay more for accommodations associated with the reliability and quality assurance that comes with a superhost.

# Review Sentiment Analysis

- **Positive Sentiment Dominance:** The overwhelmingly large number of Positive reviews (5,309,065) suggests that the majority of guests have positive experiences on Airbnb. This positive sentiment is a strong indicator of overall satisfaction among users.
- **Limited Negative Sentiment:** The relatively low count of Negative reviews (9,681) indicates that instances of dissatisfaction are comparatively rare. While it's essential to address negative feedback, the overall proportion suggests that Airbnb hosts are generally successful in providing positive experiences.
- **Paris:** Paris stands out with both the highest negative and positive review counts. While it attracts a significant number of positive reviews, the relatively high negative review count indicates a range of guest experiences, warranting closer examination to address potential areas of concern.
- **Sydney and Istanbul:** Sydney and Istanbul follow Paris with substantial negative review counts, suggesting varying levels of guest dissatisfaction in these cities. Hosts in Sydney and Istanbul might benefit from a focused approach to addressing guest concerns and enhancing overall satisfaction.
- **New York and Rome:** New York and Rome, despite having substantial positive review counts, also show notable negative review counts. This suggests a mix of positive and negative guest experiences, emphasizing the importance of host responsiveness to feedback and continuous improvement.
- **Cities with Positive Trends:** New York, Rome, and Sydney exhibit consistently high positive review counts, indicating a generally positive guest experience. These cities could serve as examples for best practices in hosting.
- **Cape Town, Bangkok, Hong Kong, Rio de Janeiro, and Mexico City:** These cities demonstrate a range of positive and negative review counts, suggesting diverse guest experiences. Analyzing the specific content of reviews can provide deeper insights into the factors influencing guest satisfaction or dissatisfaction in these destinations.



# Review Sentiment Analysis (cont.)

- **Critical Role of Air Conditioning:** While air conditioning is a vital amenity for guest comfort, it stands out with the highest percentage of low reviews among the listed amenities. This suggests that issues related to air conditioning may have a significant negative impact on guest experiences. Hosts should prioritize the proper functioning of air conditioning systems to avoid potential dissatisfaction.
- **Hot Water as a Key Contributor to High Reviews:** Hot water emerges as a standout amenity positively influencing guest satisfaction, with a substantial percentage of 77.79% contributing to high reviews. Ensuring a reliable and efficient hot water supply is crucial for enhancing the overall guest experience. Hosts may find value in prioritizing the maintenance and provision of hot water to foster positive reviews.
- **Safety and Essentials Matter:** Amenities such as smoke alarms and essentials show high percentages of high reviews (70.63% and 68.42%, respectively). This emphasizes the importance of safety features and basic necessities in contributing positively to guest satisfaction. Hosts should prioritize these fundamental elements to enhance overall guest experiences.
- **Comfort and Convenience Factors:** Other amenities such as TV, WiFi, and kitchen exhibit favorable percentages of high reviews, underscoring the importance of comfort and convenience features. Hosts may consider investing in these amenities to cater to guest preferences and potentially boost positive reviews.

# Room Type Analysis

- **Preference for Entire Places:** Guests overwhelmingly favor entire places, as indicated by the highest review count of 132,189 and the highest average rating of 93.74. This underscores a strong preference for private and self-contained accommodations, emphasizing the importance of offering entire places in catering to guest needs.
- **Positive Reception of Private Rooms:** While slightly lower in average rating compared to entire places, private rooms still receive a positive average rating of 92.84 with a substantial review count of 50,124. This suggests that private rooms remain a popular and well-received option for guests seeking a balance between privacy and affordability.
- **Challenges of Shared Rooms:** Shared rooms, with the lowest average rating of 91.24 among the listed room types, indicate potential challenges in meeting guest satisfaction in more communal living arrangements. Hosts offering shared rooms may need to focus on ensuring a positive and comfortable shared living experience to enhance guest satisfaction.
- **Considerations for Hotel Rooms:** Hotel rooms, while offering a different style of accommodation, exhibit the lowest average rating of 90.67. This suggests that guests may find more appeal in the unique and personalized experiences provided by private hosts rather than traditional hotel settings. Hosts offering hotel rooms may benefit from exploring ways to enhance the guest experience.
- **Diversity in Offering:** The varying preferences and satisfaction levels across different room types highlight the importance of diversity in accommodation offerings. Hosts may consider diversifying their listings to cater to a broad range of guest preferences, ensuring a well-rounded and inclusive selection of accommodations.

# Strategic Planning/ Recommendation

- **Provide Guidance on Air Conditioning Maintenance:** Airbnb could offer additional guidance to hosts on the importance of regular air conditioning maintenance and troubleshooting common issues. This proactive approach can help hosts prevent potential problems and enhance the overall guest experience.
- **Emphasize the Significance of Hot Water:** Airbnb can highlight the importance of hot water as a key factor in guest satisfaction. This could be incorporated into platform guidelines and communications to encourage hosts to prioritize and showcase the reliability of hot water in their listings.
- **Promote Room Type Diversity:** Encouraging hosts to diversify their room types aligns with the varying preferences of guests. Airbnb could provide resources or incentives for hosts to offer a range of accommodations, fostering a more inclusive and customizable platform.
- **Offer Best Practices for Shared Spaces:** Airbnb could provide best practices and guidelines for hosts offering shared rooms, emphasizing the importance of clear communication, well-defined shared spaces, and community-building aspects. This can contribute to positive shared living experiences for both hosts and guests.
- **Highlight Unique Selling Points for Hotel Rooms:** Recognizing the unexpected trend of hotel rooms receiving lower average ratings, Airbnb could work with hosts to identify and emphasize unique selling points for hotel room listings. This could involve showcasing special features, services, or experiences that set hotel rooms apart from other accommodation options.
- **Facilitate City-Specific Insights:** Airbnb can enhance its platform by providing more city-specific insights and information based on guest reviews. This can help potential guests make more informed decisions about accommodations in different cities, contributing to a more personalized and satisfactory booking experience.
- **Continuous Data Analysis:** Airbnb should continue to conduct regular data analysis to identify unexpected trends and insights. By staying attuned to evolving patterns in guest preferences and satisfaction, Airbnb can adapt its platform features, guidelines, and support strategies to enhance overall user satisfaction.

THE END

THANK YOU