

Airbnb Property Management Optimization



AIM OF THE PROJECT

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.





1. Listings Overview

- Total Listings: How many total listings are available across all cities?
- Listings by Property Type: How many listings are available for each property type?
- Listings by Neighborhood: Which neighborhoods have the most listings?
- Listings by Season: How does the number of listings vary by season?
- Listings by City: How many listings are available in each city?



Airbnb Listings Overview

Topn

8

Number Of City

5

Number Of Property Type

4

Number Of Listings Id

92,355

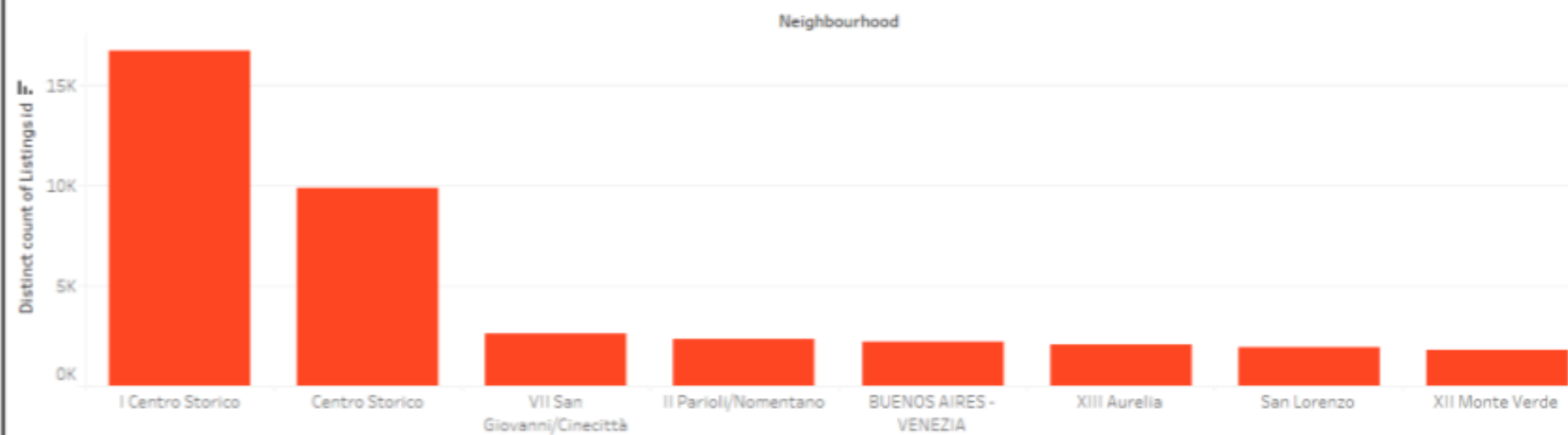
Number Of Neighbourhood

195

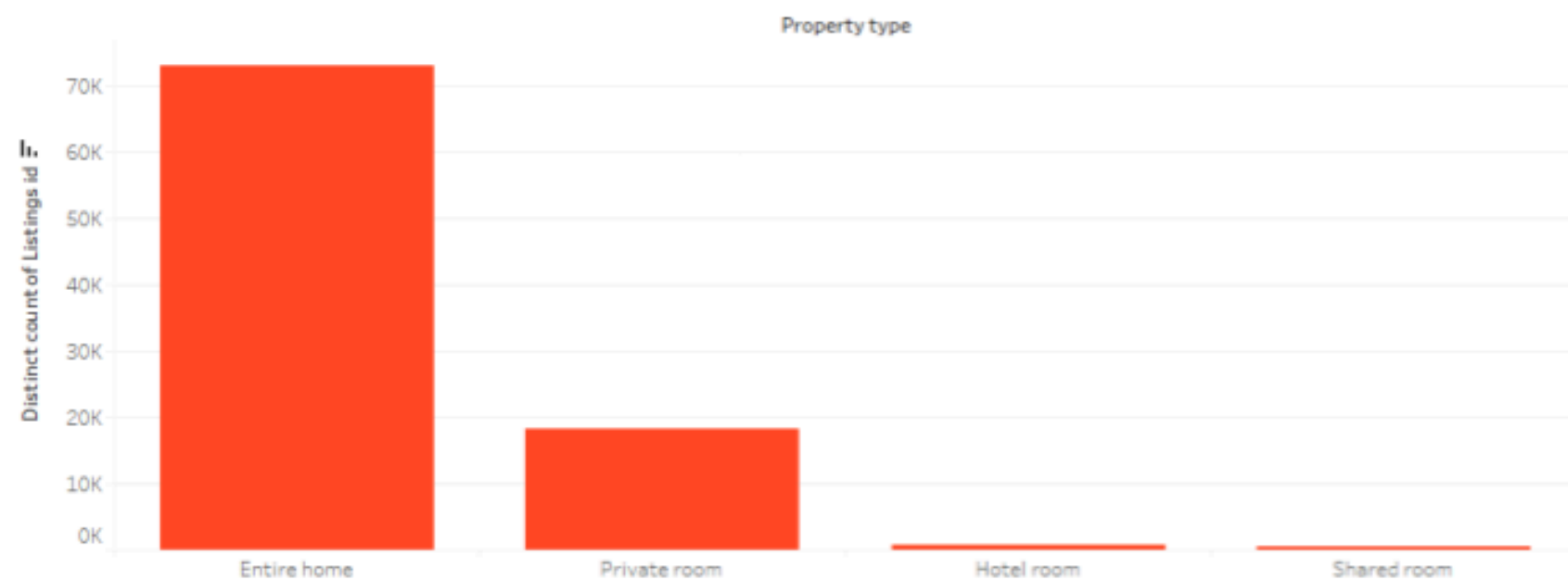
Listings by City



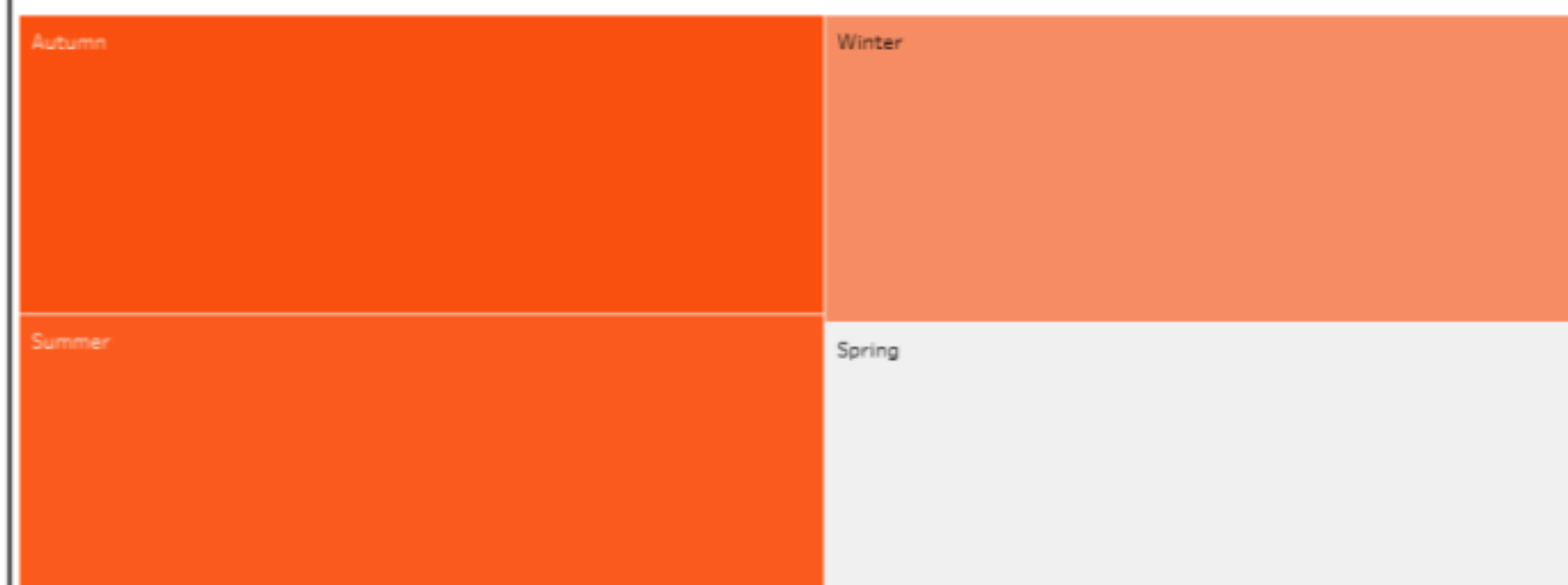
Listings by Neighbourhood



Listings by Property Type



Listings by Season



1.Key Insights for Listings Overview

- A total of 92,355 listings are distributed across 5 cities and 195 neighborhoods
- Entire homes dominate the market with over 70,000 listings, making up the vast majority.
- Private rooms account for a significant but smaller portion (around 15,000– 20,000 listings).
- Hotel rooms and shared rooms are negligible in comparison.
- Rome is the top city with over 30,000 listings.
- Autumn and Summer lead with slightly higher listing volumes compared to Winter and Spring, suggesting a focus on peak travel periods.

2. Pricing Insights

- Average Price: What is the average price of listings by property type?
- Price Range: What is the price distribution across listings?
- Price by Season: How does the average price vary by season?
- Price vs. Rating: Is there a correlation between listing price and rating score?
- Top Expensive Listings: Which are the top 5 most expensive listings and their hosts?



Airbnb Price Insights

Topn

8

Dynamic measures

neighbourhood

Avg. Price

\$173.16

Median Price

\$120.00

Min. Price

\$8.00

Max. Price

\$95,195.00

\$ per Rating Point

\$10.53M

Autumn

12%

Summer

3%

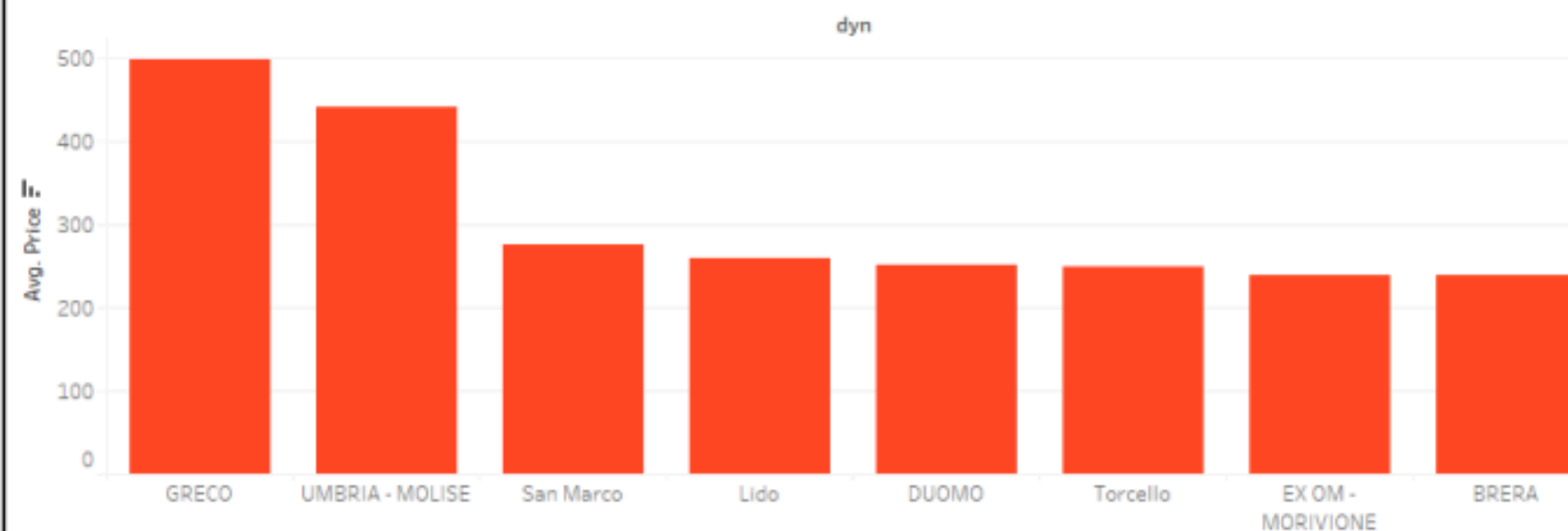
Spring

-6%

Winter

-9%

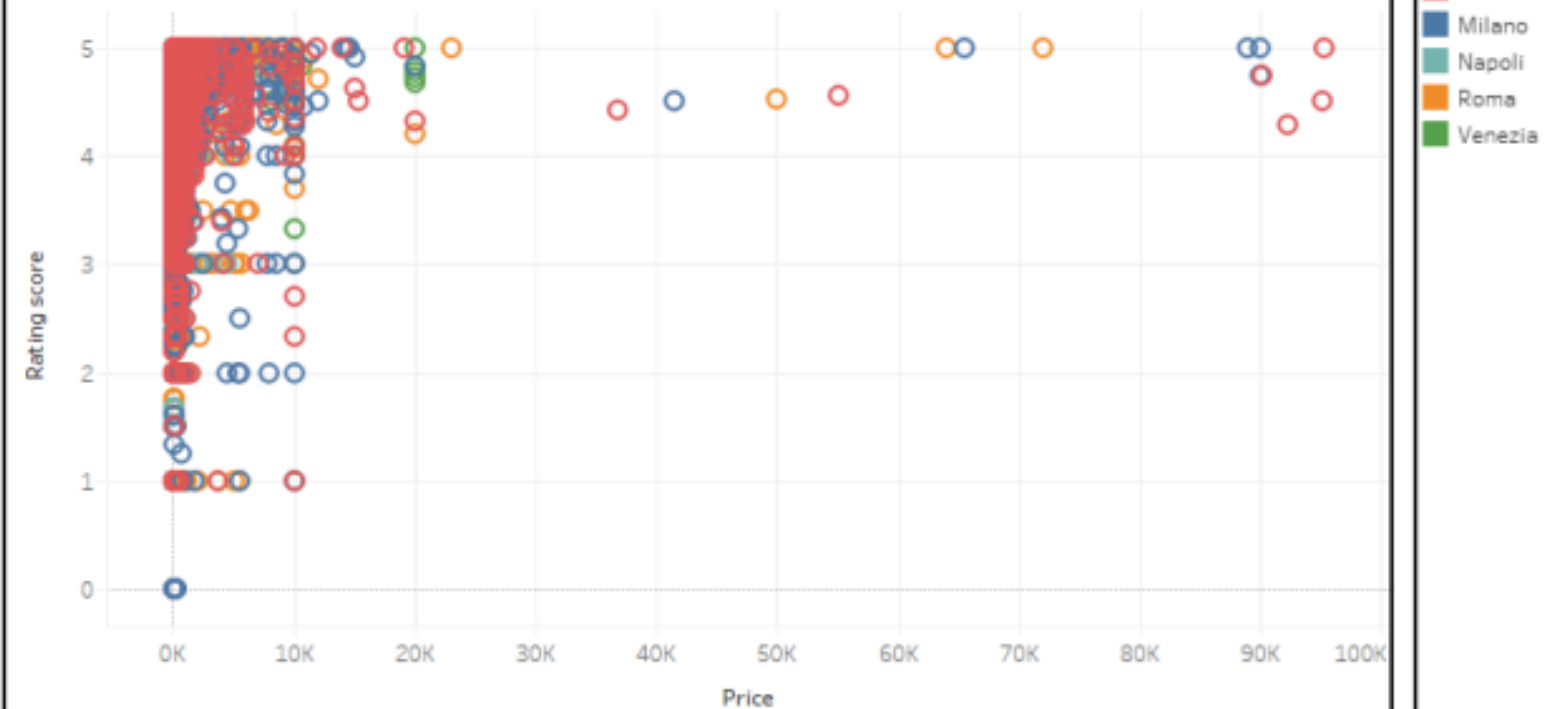
Avg price by neighbourhood



Price Distribution



Correlation b/t Price and Rating Score



Top 5 Listing by Expenses



2.Key Insights for Pricing

- The average listing price across the dataset is \$173.16, with a median of \$120. The price range is quite wide, from as low as \$8 to a maximum of \$95,195.
- The majority of listings are priced below \$150, with a large concentration around the \$50–100 range.
- The top 5 listings by total price/expenses are significantly higher than others, with one listing surpassing \$350K in total revenue, suggesting either long availability, premium services, or both.

★ 3. Host Insights

- Host Type: What percentage of listings belong to Superhosts vs. Regular Hosts?
- Host Listings Count: How many listings does each host have?
- Top Hosts: Who are the top 5 hosts with the most listings?
- Superhost Impact: What is the average price and rating for Superhost vs. Regular Host listings?
- Host Since: How does the number of hosts vary by the year they joined?



Laundry on Airbnb Host Insights

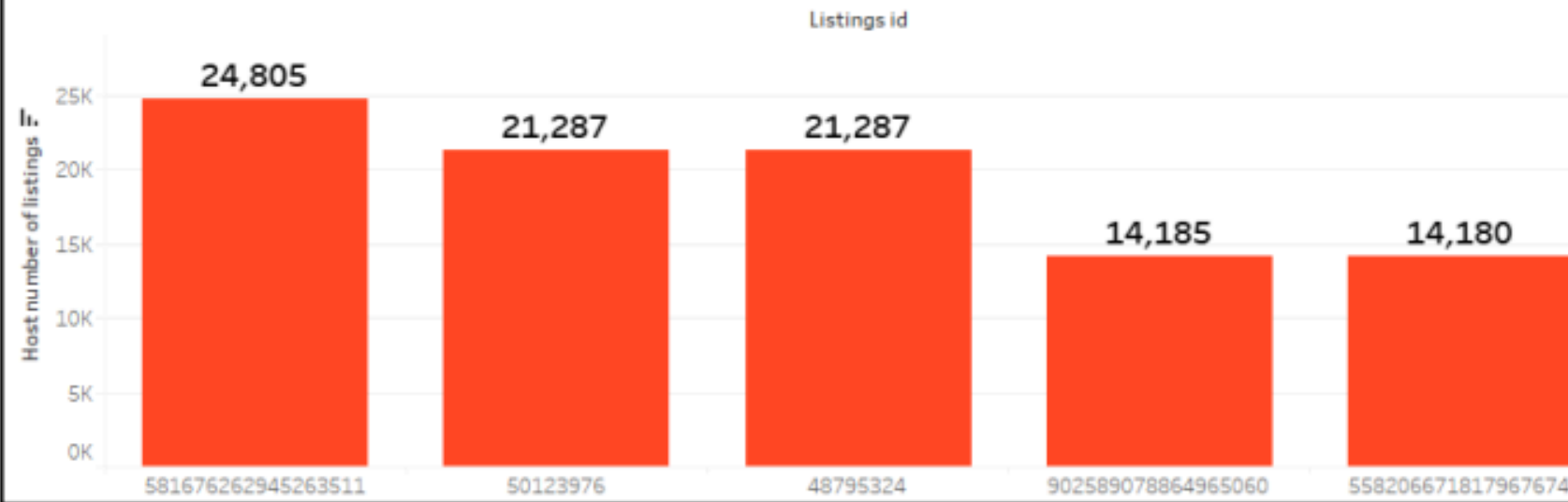
Avg Number of listing per host
31.22

Recent MoM Host Growth
-51.94%

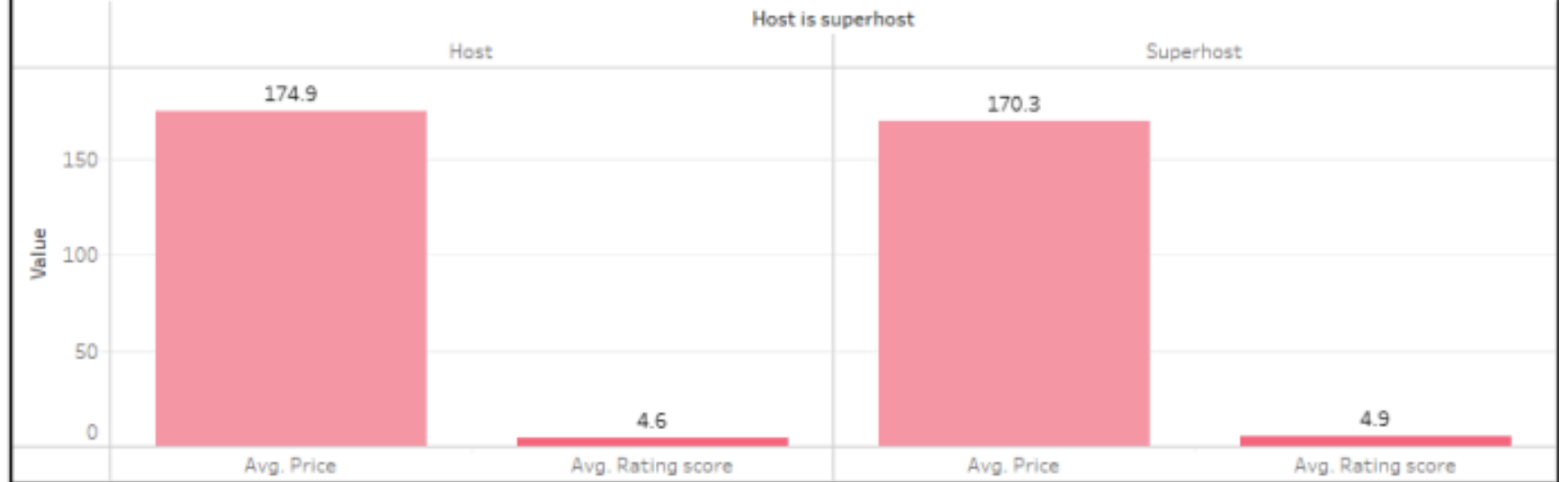
Superhost Rating Edge
0.2253

Superhost Price Premium
-2.61%

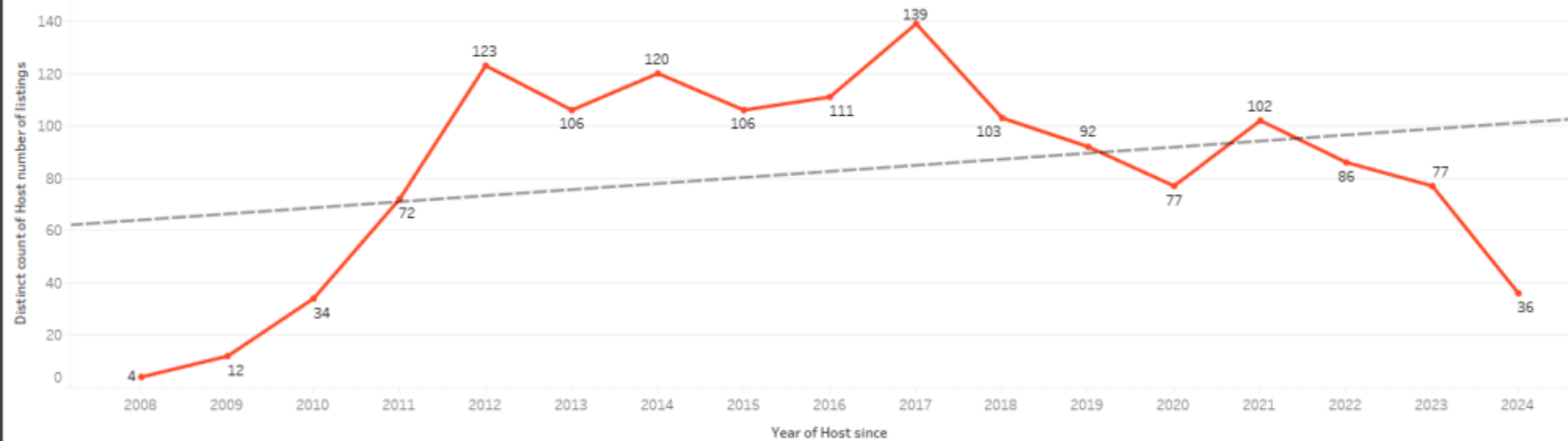
Top 5 Listings by Number of Host



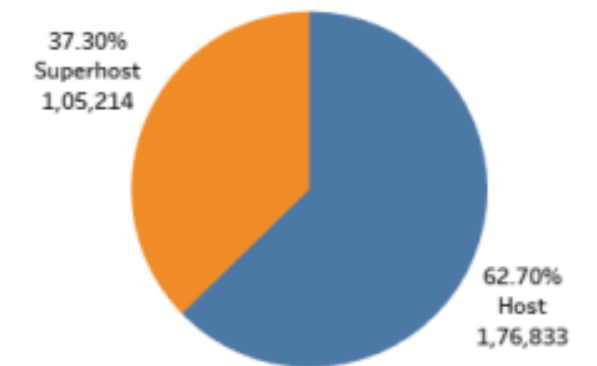
Avg. Price and Rating by Host



Trend of Host Registrations by Year



% Host Type



3.Key Insights for Host

- The average number of listings per host is approximately 31.22, indicating many multi-property managers.
- Superhosts have a slightly lower average price (R\$ 170.3) compared to regular hosts (R\$ 174.9), despite having a higher average rating (4.9 vs. 4.6).
- The Superhost Price Premium is negative at -2.61%, implying they charge less, possibly to stay competitive.
- Host registrations peaked in 2017 with 139 new hosts.
- The recent MoM Host Growth has dropped significantly by -51.94%, indicating potential market saturation or entry slowdown.

★ 4. Rating & Review Analysis

Average Rating: What is the average rating across all listings?

Rating by Property Type: How does the average rating differ across property types?

Review Frequency: How many reviews do listings receive per month?

Rating Breakdown: How do the different rating categories (cleanliness, value, location) compare?

High-Rating Budget Listings: Which listings have a value-for-money score above 4.8 but are priced below the median?



Airbnb Ratings Insights

Average Ratings Score
4.721

Review Frequency per Listing
1.709

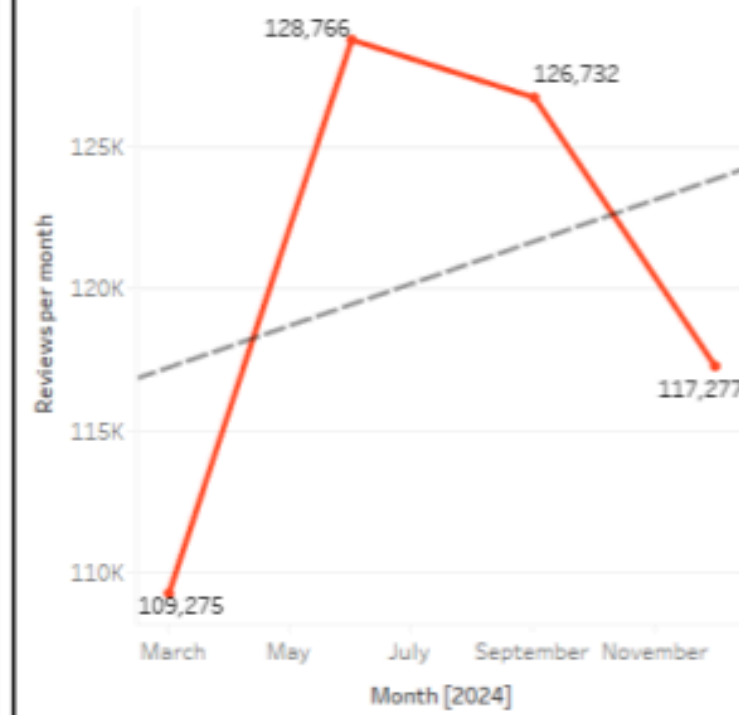
Experience Level, Measur...

- Established (1-3yrs)...
- Experienced (3-5yrs)...
- Novice (<1yr), Avg. R...
- Veteran (5yr+), Avg. ...

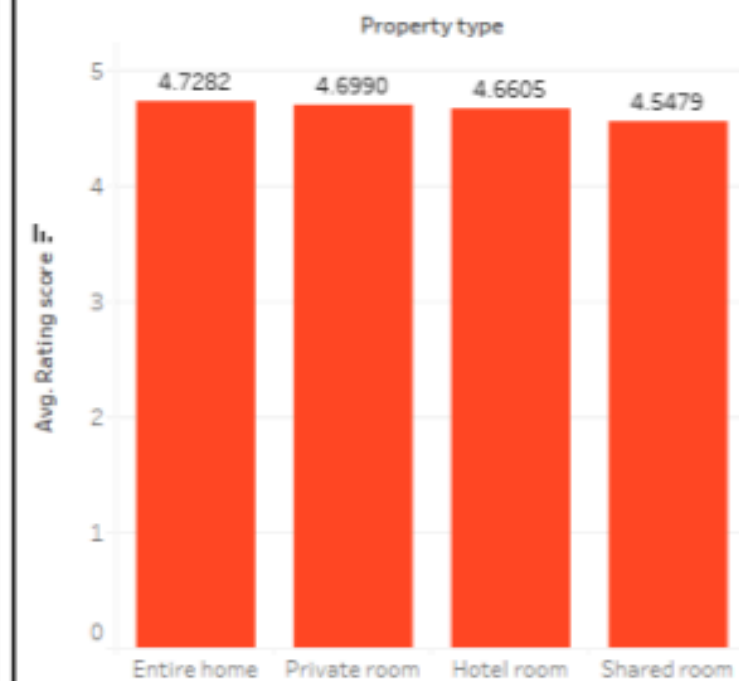
High-Rating Budget Listings

Listings id	Price	Value for m..
11834	110	4.8
12398	102	4.85
	110	4.84
		4.85
21193	90	4.8
	110	4.8
31464	48	4.85
	83	4.85
32180	105	4.84
	109	4.84
32395	63	4.83
47383	75	4.87
	90	4.87
52545	66	4.8
	76	4.8
	79	4.8
	100	4.8
53265	84	4.82
		4.83
	87	4.83
53844	100	4.8
56795	109	4.86
57572	95	4.8
	100	4.8
57644	106	4.85
60304	87	4.8
60838	109	4.85
	111	4.85
	112	4.85
63267	90	4.91
64023	84	4.82
	85	4.82
	94	4.82
	100	4.82
66903	109	4.81
	115	4.82
68273	100	4.92
74364	72	4.9
	73	4.9

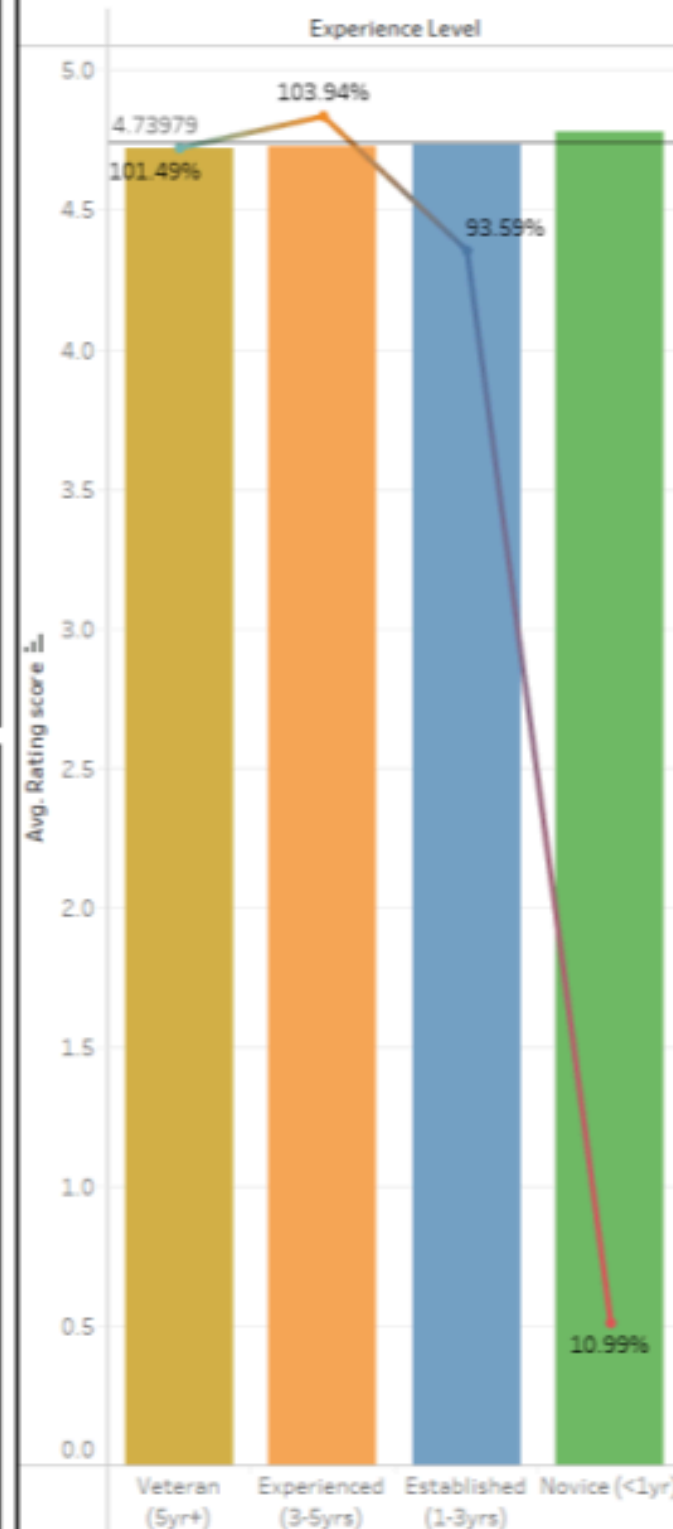
Review Frequency



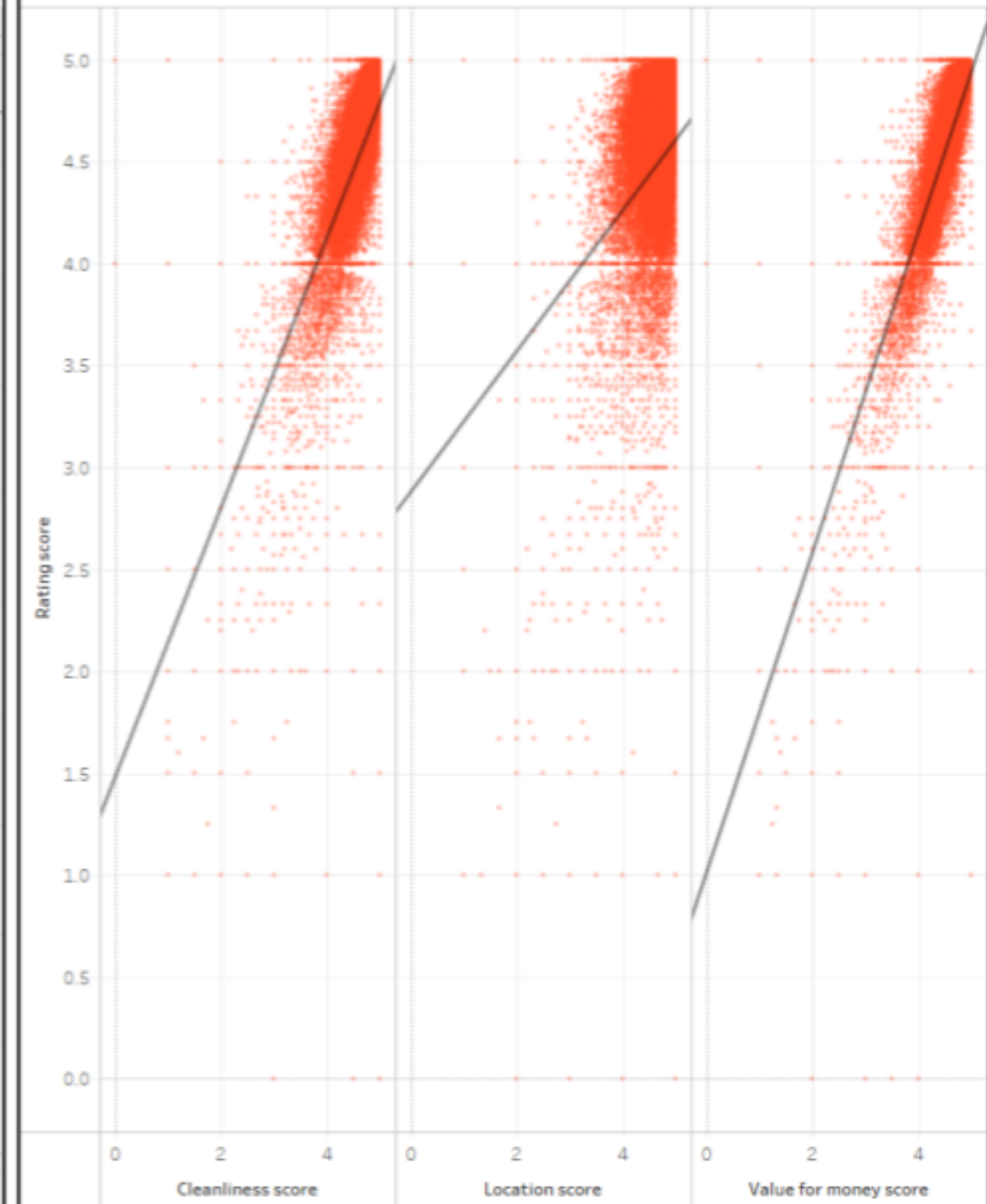
Rating by Property Type



Host Experience Impact Score



Rating Breakdown



Experience Level

- Established (1-3yrs)
- Experienced (3-5yrs)
- Novice (<1yr)
- Veteran (5yr+)

4.Key Insights for Rating & Review Analysis

- The average overall rating score across all listings is 4.721, indicating high customer satisfaction on Airbnb listings.
- Review frequency shows that listings receive an average of 1.709 reviews per listing per month.
- Peak review volume was observed in July (128,766) and September (126,732).
- Several listings with value-for-money scores of 4.8+ are priced below the median (typically around or under \$110).
- There is a strong positive correlation between cleanliness, location, and value-for-money scores with the overall rating.



5. Availability & Booking Insights

- Seasonal Booking Trend: How does the number of bookings change over the months?
- Booking by City: Which city has the highest number of bookings?
- Review Count by Season: How do reviews vary by season?
- Active Listings: How many listings were active in the last 3 months?
- Longest-Running Hosts: Which hosts have been active for the longest period?

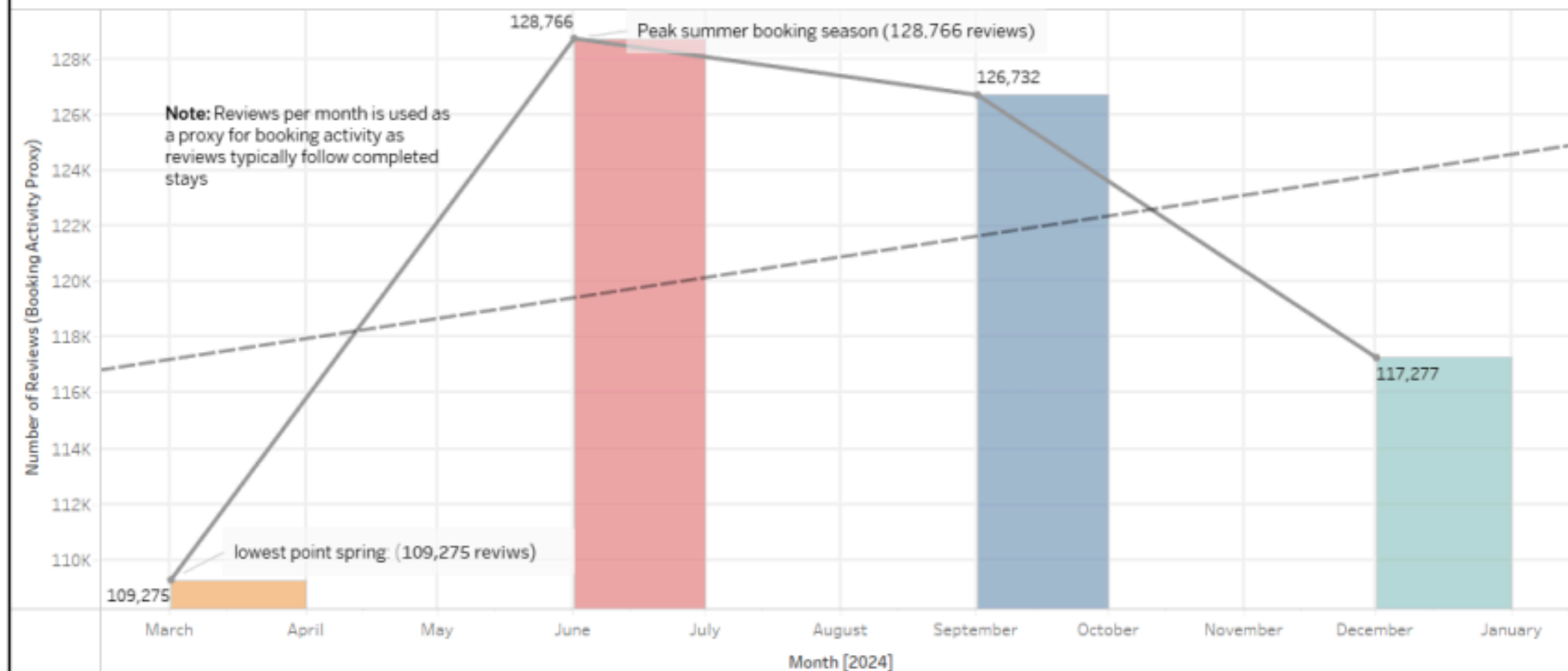


Airbnb Bookings Insights

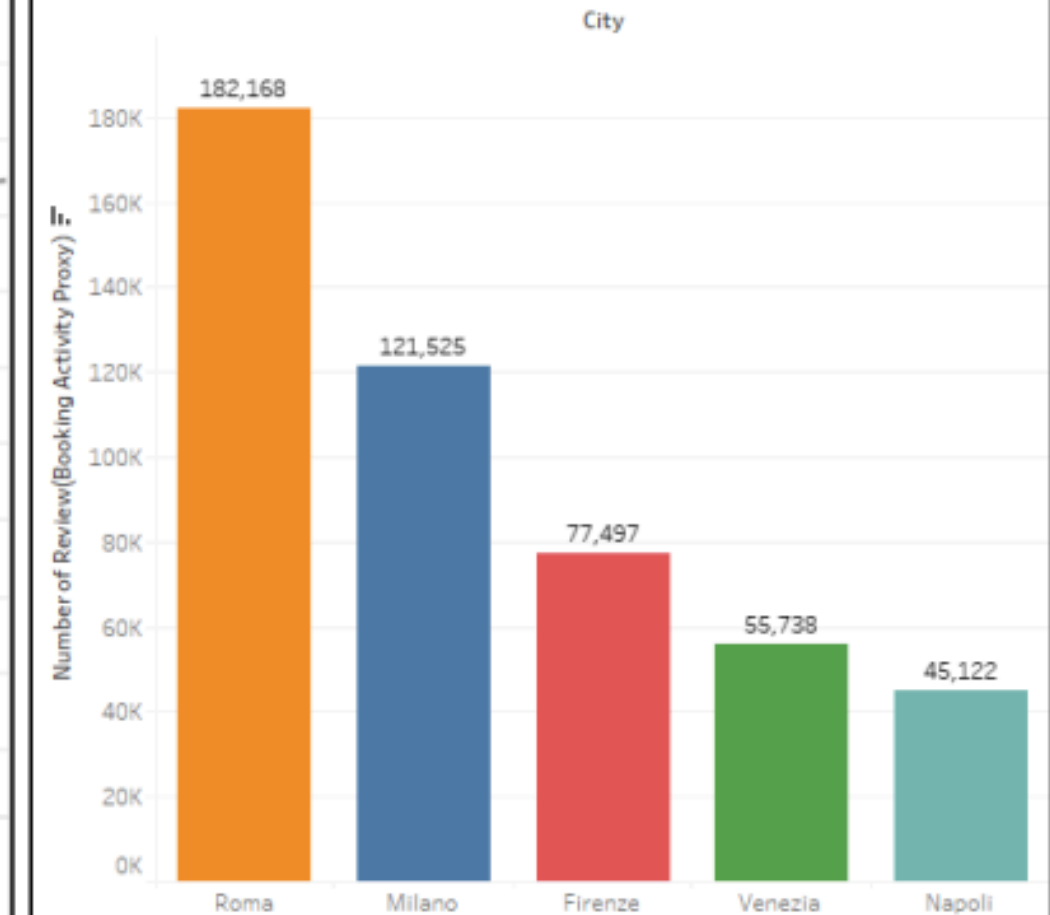
Peak Season Utilization Rate
104.4%

Host Longevity Index
8 years

Seasonal Booking Activity Trends(2024)



Booking by City



Property type

- ☒ (All)
- ☒ Entire home
- ☒ Hotel room
- ☒ Private room
- ☒ Shared room

Season

- ☒ Winter
- ☒ Spring
- ☒ Summer
- ☒ Autumn

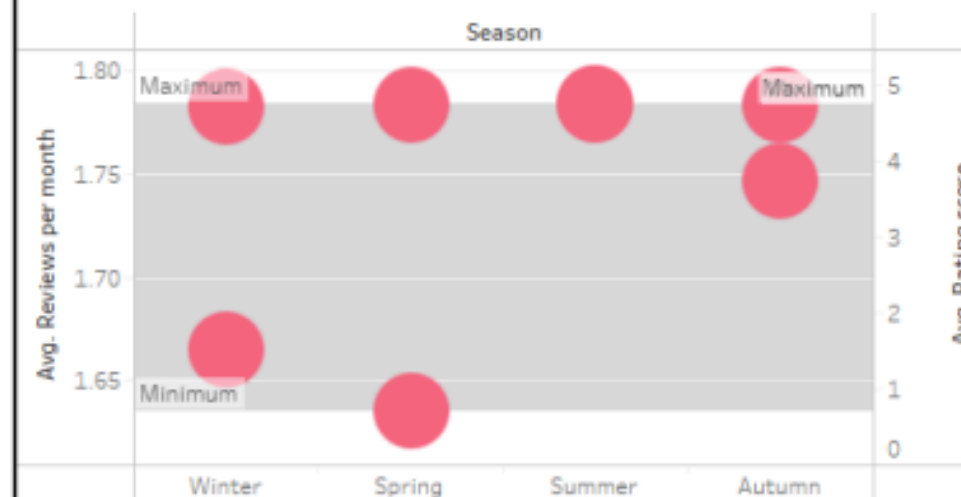
Measure Names

- ☒ Avg. Rating score
- ☒ Avg. Reviews per m...

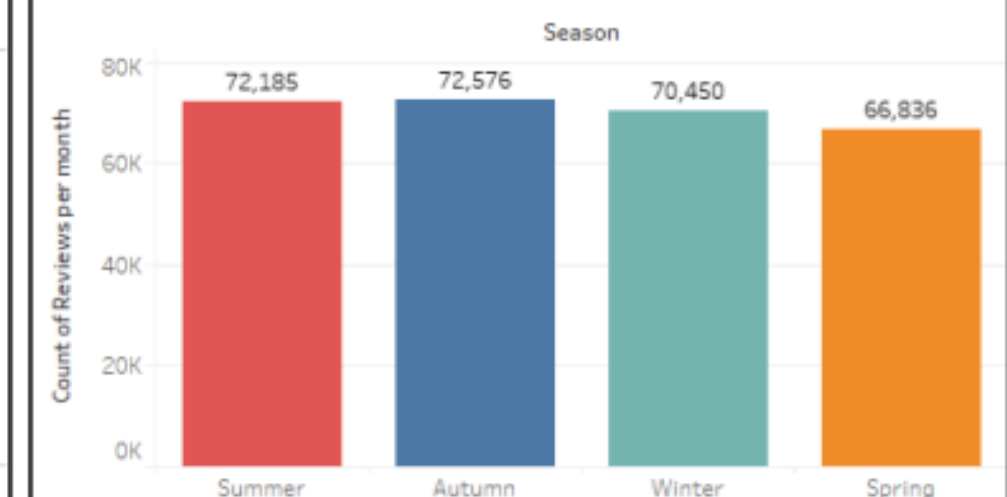
Longest-Running Hosts



Seasonal Performance Variation



Review Count by Season



5.Key Insights for Availability & Booking

- Booking activity peaks in summer, especially June with 128,766 reviews, indicating it as the most active period. In contrast, spring shows the lowest booking activity at 109,275 reviews.
- Roma leads significantly in booking volume with 182,168 reviews, followed by Milano and Firenze, suggesting Roma as the top tourist destination.
- The longest-running host has been active since 2008, and several others have continued since 2009–2010, indicating strong platform loyalty and experience.
- The Host Longevity Index is 8 years, showcasing a stable and experienced host base.



6. Amenities & Property Features

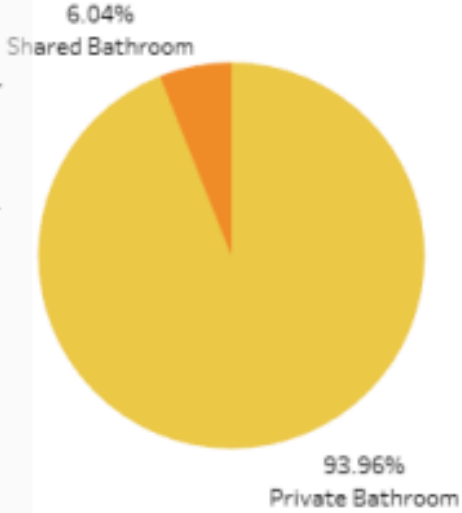
- Bedrooms & Beds: How many listings have 1, 2, 3+ bedrooms?
- Bathroom Type: What is the distribution of private vs. shared bathrooms?
- Max Allowed Guests: How many listings can accommodate 4+ guests?
- Entire Home vs. Private Room: What is the price and rating difference between entire homes and private rooms?
- Property Type by Neighborhood: What are the most common property types in each neighborhood?



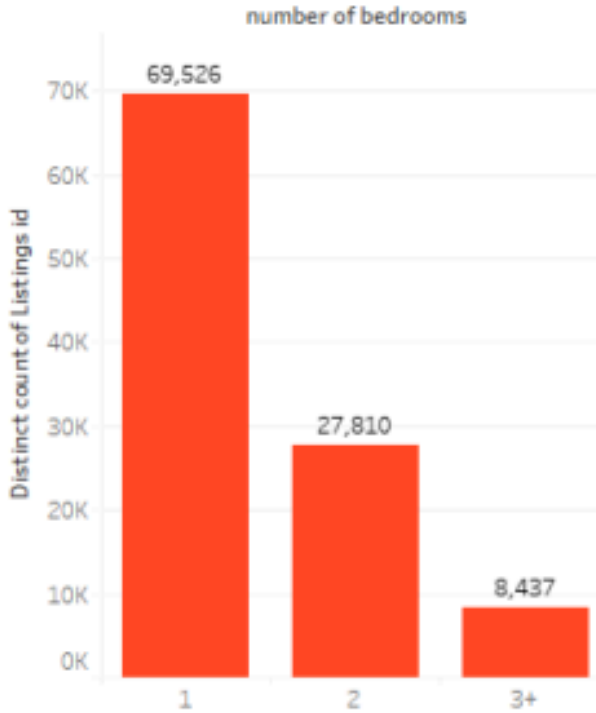
Airbnb Amenities & Property Features

Distribution of Bathroom Types

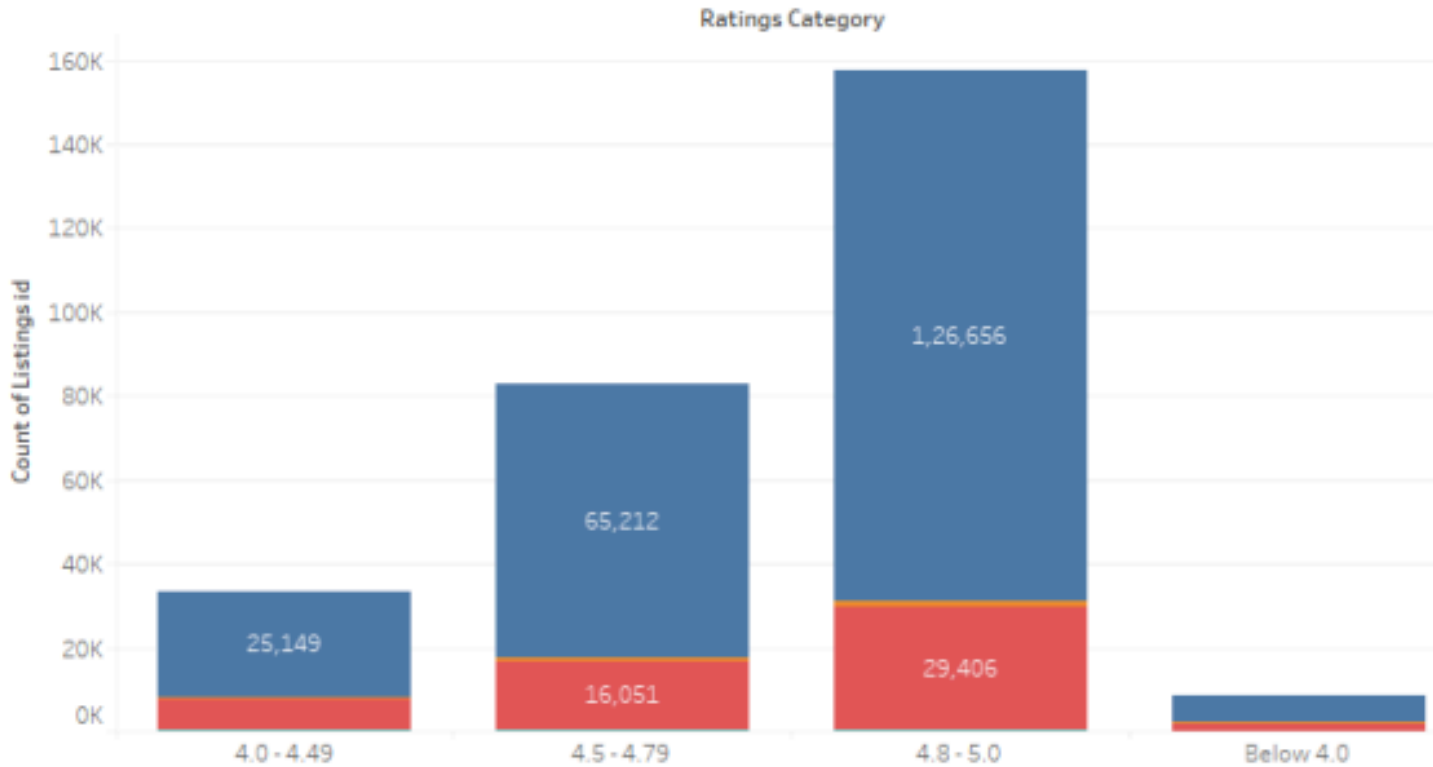
Key Insight: Nearly 94% of all Airbnb listings offer private bathrooms, indicating this is a standard expectation among guests. Properties with shared bathrooms represent only a small niche in the market.



Distribution of Listings by Bedroom Count



Rating Breakdown by Property Type

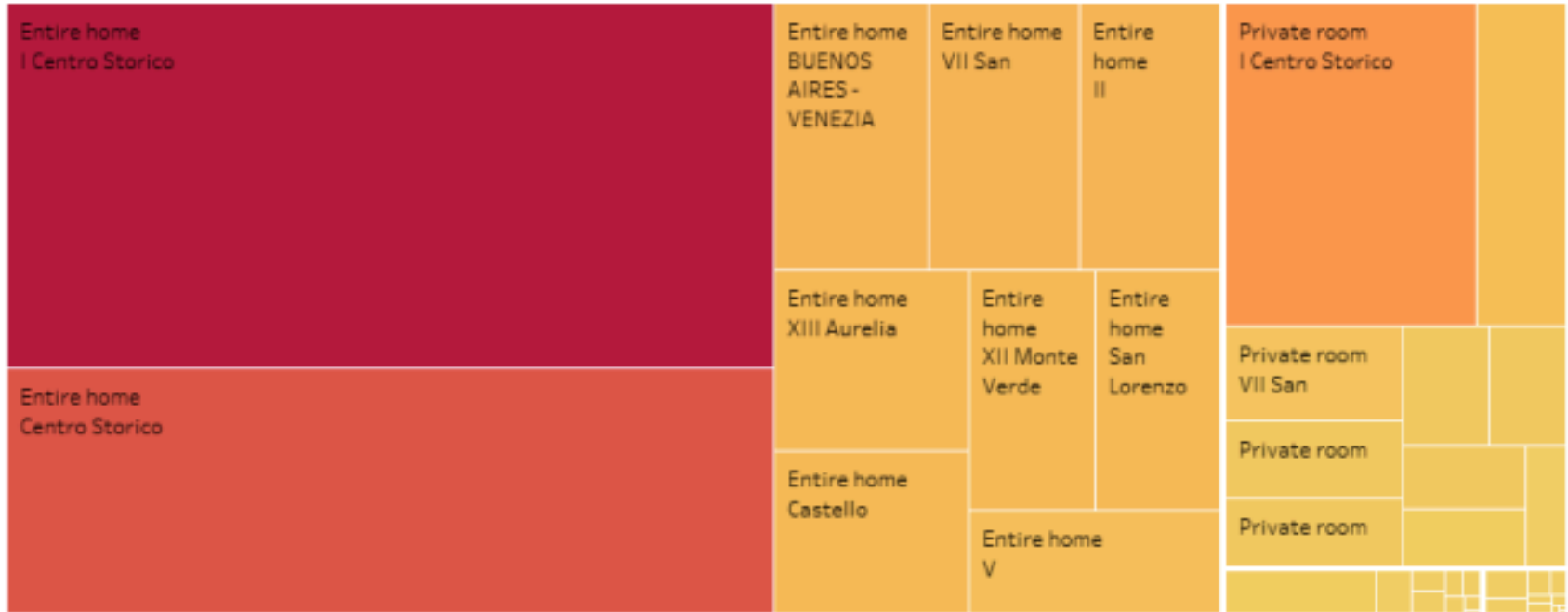


% Listings That Host
4+ Guests
51.65%

% Listings with
Private Bathrooms
93.96%

% Listings with 3+
Bedrooms
7.45%

Property Type by Neighborhood



How Bedroom Count Aligns with Guest Capacity



Property type

- Entire home
- Hotel room
- Private room
- Shared room

6.key Insights of Amenities & Property Features

- Most listings have 1 bedroom (approx. 69.5K), followed by 2-bedroom listings (~27.8K), while listings with 3 or more bedrooms are relatively rare (~8.4K), comprising just 7.45% of all listings.
- The heatmap shows that 1-bedroom listings most commonly host 2-3 guests, while 2- and 3-bedroom listings accommodate 4–6 guests, aligning bedroom count with guest capacity logically.
- About 51.65% of listings can host 4 or more guests, highlighting a significant portion of listings that cater to families or small group.
- Nearly 94% of listings offer private bathrooms, indicating that it is a standard feature expected by guests, while shared bathrooms represent only a small niche (6.04%).

Thank You