

Business Problems

Q1. What is the average listing Price based on Neighbourhood? OR (How does the neighbourhood have impact on price?)

Q2. What is the occupancy pattern based on weekday and season?

Q3. How do hosts with high performance compare to hosts with low performance? Based on this, how can hosts with low performance increase their performance ratings?

Q4. How are Listings and Rent Price compared between neighbourhoods?

Ans 1. Average price listing across neighbourhood says **Magnolia** has the highest average price (\$177.67) which makes it most expensive followed by **Queen Anne, Downtown Seattle, West Seattle** and **Cascade** are among the top 5 by average price listing. The least five expensive neighbourhoods are **Delridge, Northgate, Rainier Valley, Lake City, University District** with average price ranging from \$83.28 to about \$94.

Also boat house listings are the costliest with average price of \$282.38 across all neighbourhoods. The cheapest listings are **Dorm** and **Tents** with average prices of \$39.50 and \$54 respectively.

Ans2. Trends in average price of listings implies that average price increased towards the summer months (June, July, August) and peaked in July with an average price of about \$152. It makes sense as Seattle is a popular tourist destination in Summer. After peaking in July, the average price decreases steadily until November where it increases again. Also, average price tends to be highest on weekends compared to weekdays. This shows that there are possibly more visitors in the summer months and weekends who search for accommodation and thus increase in demand leads to price rise.

Ans 3) Using the review ratings given by guests I ranked the hosts based on performance into High (90th percentile and above), Fair (>25 and < 90th Percentile) and Low (below 25th percentile). Interestingly, high performing hosts tend to charge lower average prices, lower average security deposits and lower average cleaning fees. In contrast, low performing hosts charged the highest across all fees. Also, high performing hosts have the fastest response rate with 79.75% of them responding very fast (within one hour). In contrast, only 33.55% of low performing hosts respond within one hour. Hosts seeking to improve their performance will therefore need to increase their response rate, and make sure their prices, cleaning fees and security deposits are not too high among other factors.

Ans 4) Downtown has the highest price range with the most expensive listing of >\$900/bed and the cheapest listing of \$4/bed. Lastly, top potential predictors for price include number of bedrooms, type of property (home/apartment and boat houses), number of bathrooms, neighbourhood (downtown) among others.