**Data-Driven Insight using predicted model (Tableau)**

Refer to Jupyter (Data\_Driven\_Insight) to understand the assumption made for the data driven insight and the derive of the several columns.

The term actual price used is referring to the price set by the host.

the term predicted price is referring to the recommended price by the model.

**Map for Datapoint**

**Map

Description automatically generated**

A Map with every datapoint is created and is grouped by the different region. Property features such as room type, number of reviews, bed, predicted price is provided. Using this map Airbnb company can compare different property quickly and gauge whether they should adjust price by referring to nearby datapoint.

**Multi-layer Map**

**Map

Description automatically generated**

**Map

Description automatically generated**

A multi-layer map is created using region and neighbourhood. User can interact with the multi-layer map to see the average recommended price for each region and neighbourhood.

**Difference (Neighbourhood)**

**Chart, timeline

Description automatically generated**

The variable difference is derived from predicted price – actual price. The aim of this variable is to see the difference in terms or price. A bar chart is created using variable Neighbourhood and difference.

***Interesting Data-Driven Insight 1:*** If Airbnb decided to “force” host to set the price using this model. Airbnb company and Host will have a lesser revenue overall. The model provided price close to market rate. Host in the non-CBD region such as Ang Mo Kio, Bishan, Toa payoh will benefit and earn more. Host in this region tend to set the price at lower price. However, CBD region such as southern-island and Orchard region would not benefit if price were set according to the model/market rate and they will have a lower revenue.

**Difference (Region)**

**Table

Description automatically generated with low confidence**

The variable difference is derived from predicted price – actual price. The aim of this variable is to see the difference in terms or price. A bar chart is created using variable region and difference.

***Interesting Data-Driven Insight 2:***  Central region, East region, west and North Region will be affected if they set the price using the model. North-east region will see higher revenue. Central region is affected the most if they set the price using the model.

**Forecast earning region**

**Graphical user interface, application, Word

Description automatically generated**

A Bar chart is created to see the forecast earning of predicted price from different region.

***Interesting Data-Driven Insight 3:***  Using the model recommended price, Majority of the revenue will still come from the central region.

**Number of reviews**

**Graphical user interface, text, application

Description automatically generated**

A histogram of number of review and forecast predicted price is plot. The review bin-size is 14.

***Interesting Data-Driven Insight 4:***  Majority of the revenue will come from property that have 0-17 reviews.

**Host recommended price forecast vs predicted price forecast vs difference:**

**Chart

Description automatically generated**

A bar chart that plots forecast host price, forecast model recommend price, difference price is created.

***Interesting Data-Driven Insight 5:***  Using the model recommend price, the revenue is lesser.

**Price insight system(region):**

**Map

Description automatically generated**

**Map

Description automatically generated**

A price insight system for region is created for Airbnb company to monitor the price and forecast earning in the different region.

**Price insight system (Neighbourhood):**

**Map

Description automatically generated**

A price insight system for neighbourhood is created for Airbnb company to monitor the price and forecast earnings in the different neighbourhood.

**Customer review system(comment)**

**Map

Description automatically generated**

**Map

Description automatically generated**

The customer review system allows Airbnb company to view individual comments of properties that need to pay special attention. Each of the ID is highlighted in different colour respectively. Airbnb can look at the comments and property information to seek improvement and serve customer better.

**Recommendations:**

1. The current Airbnb property pricing is decided by the host which is not accurate or close to the actual property market rate. Using this model recommendation, Airbnb should force host to set the price at the model recommended price with some flexibility. For example, if the recommended price is 100, user can only set between 90-110.
2. Some property host might not be benefiting from this recommend price as they can’t set price at their liking. However, the team still recommend implementing the model recommendation because the price is closer to market rate. When the price is closer to market rate, customers are more willing to rent resulting in more transactions.
3. The main revenue come from central region and Airbnb should focus their marketing campaign on central region
4. Using the price from host will not generate an accurate forecast earning as user set their price at their own liking, Airbnb should implement this model so that they will have an accurate forecast earning.
5. From the number of review point of view, most of earning come from bin 0-17. 2 possible problems.
6. Review is not accurate thus there is a need to implement and integrate NLP system because generally things with more review should earn more due to reputation
7. People doesn’t provide feedback/review thus there is a need to provide incentive to encourage feedback