Capstone Project 1 Proposal – Airbnb Data

Problem - Airbnb is a privately owned accommodation rental website which enables hosts to rent out their properties or rooms to guests who use the website to find somewhere to stay. Thanks to the firm, tourists can now accommodate themselves in hosts' properties at a generally cheaper price than hotels. Presently, in order to book a stay, customers have to search through Airbnb's website for their designated place. Selecting the place will proceed you through a list of steps such as payment and asking for customer's number of nights and guests. If customers are uncertain of where to stay, they can search for countries/cities to let Airbnb suggest several accommodations, and even specific places (restaurants and parks) to find accommodations that's allocated around those places. Customers can also use website filters to set the price range of price per night. Airbnb's website contains numerous useful features, but here are room for more improvements to enhance Airbnb's user experience. Airbnb should have another filter for transportation costs and the type of transportation the customer is planning to take. The objective of the project is to create a tool to help customers find a suitable accommodation (with filters available) along with calculating the estimated price for the several transportation choices from the airport. The tool should be able to sum up the round trip price which is transportation plus the total cost for the Airbnb booking.

Client - The solution above is for customers who worries about transportation fees and have difficulty deciding which transportation would be best. The tool would also help customers who are concerned about their budget.

In terms of enterprise benefits, the tool can be used to provide new insights to Airbnb. If there is additional data on the price of transportations, Airbnb can improve their suggestions with regards to customer's choice. The data can for example, help Airbnb recognize high potential accommodations because customers can travel there by train (with very minimal walking) and with an extremely low price.

Data – focused on accommodations in London

Source 1: insideairbnb provides data for listings that includes information on:

Name, host_id, host_name, neighborhood_group, neighbourhood, latitude, longitude, room_type, price, minimum_nights

Insideairbnb provides the list of neighborhoods that governs the listing which can be useful for geo filter

http://insideairbnb.com/get-the-data.html

Source 2: statista provides useful Airbnb statistics and visualizations that maybe beneficial

https://www.statista.com/topics/2273/airbnb/

Approach – From listings data, the tool can create a dataframe of listings. The tool can extract/slice the dataframe into a new dataframe that have values that are beneficial, like latitudes/longitudes, names of accommodation, and price.

Additionally, data on the price of different transportations from the airport should be available on the dataframe. These transportations are local taxi, Uber, trains, bus. For train and bus choices, the price data should be from the fastest and cheapest routes.

The tool can query from the dataframe to help calculate the total round trip price for a particular accommodation. The tool should also be able to accept the total price that customer is willing to spend on transportation + accommodation value and suggest lists of accommodations accordingly.

Deliverables

- A presentation explaining my approach to the project and to extrapolate the importance of the project.
- A report outlining the methods involved and conclusion of the project