

Abstract

Expedia Group (NASDAQ: EXPE) is an American online travel shopping company for consumer and business travel. For the UCLA DataFest competition, Expedia provided its 2015 customer search information, which we have decided to use for this project. Our goal is to analyze customer search trends in order to determine predictors for which countries a customer is likely to travel to.

Background

The Expedia dataset has roughly 1.5M observations of 27 variables, and the attached ‘destination’ dataset has 36K observations of 144 variables. A single observation in this dataset consists of information on a user’s visit to the site (location of user, date, time etc.) along with their actions on the site (ie. whether they made a booking, what kind of a booking they made). Moreover, the supplementary destination dataset has a variety of ‘popularity’ rankings for each of the destinations, providing insight into what makes certain destinations attractive.

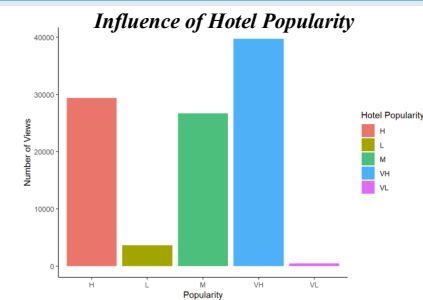
Hypothesis

We believe that price and online popularity of travel destinations have a significant effect on one’s likelihood to make a booking. We hypothesize that countries that exhibit higher rates of travel booking will have higher online ratings and lower prices.

Methodology

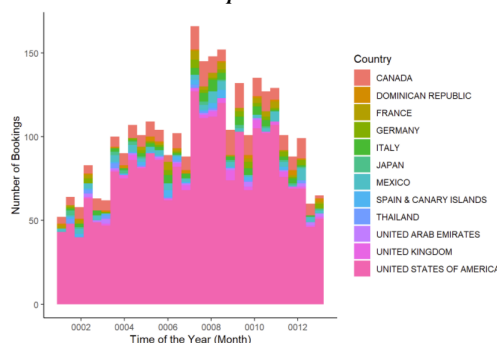
We used the provided CSV datasets to create our analysis, along with RStudio and packages ggplot2, dplyr, tidyverse. Because of the large size of the dataset, we used a randomly selected subset that was representative of the overall dataset. We then transformed the ‘booking’ variable into a binary categorical variable to conduct our analysis.

Results & Discussion

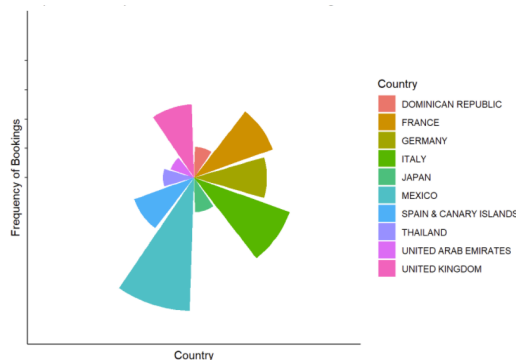


As we suspected, higher rated destinations (Very High or High) tended to have significantly higher views than lower rated ones. However, while higher priced locations tended to have lower views, extremely low priced locations tended to have lower views as well. The ‘sweet spot’ was medium priced locations. We believe this is because they have the best balance of quality and price. Moreover, while US presence was strong, international growth for Expedia seems to be decelerating given its relatively small presence over time. Based on the results that customers book more trips for close-by locations, it seems that Expedia has a market opportunity to incentivize customers to book more long-term trips

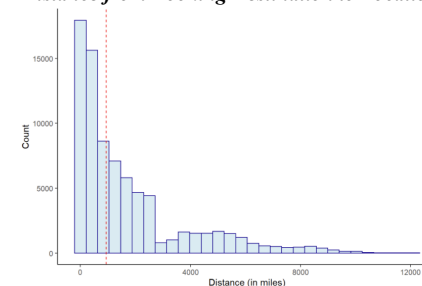
Destination Population Over Time



Top 10 Most Popular Destination (excl. US & Canada)



Distance from Booking Destination to Location



Next Steps

We believe there is a significant market opportunity for Expedia to expand its international presence, given the relatively small frequency of foreign locations.

Conclusion

We conclude that customers are more likely to book trips for locations that have high reviews but are conservatively priced. Expedia should further look into marketing tactics such as holiday promotions, so that they can better target their customer demographic. They should also hone their online advertisements for this segment of travelers.