

TravelTide data segmentation

Introduction/Background

The data we're looking at has been split into groups using something called fuzzy segmentation and another method called k-means clustering. But to make this work for a bigger picture, it's crucial to gather more data about user details like age, location, and other related stuff.

Objectives

Our first goal is to check if the data supports the idea that some customers really like certain perks, just like the marketing team suggested. Then, we want to find out which perk is most likely to be a customer's absolute favorite.

Methodology

We did some math to figure out how much customers like each perk. We added up numbers for each perk to see which ones people like the most. We did this for each perk separately. Then, we put users in different perk groups based on their scores using fuzzy segmentation. We also tried another method called K-means clustering to double-check. The presented data was segmented using fuzzy segmentation and also the kmeans clustering, however it would be very important to gather more data regarding the demographics of the users and other related metrics in order to scale this to a wider business context.

Objectives

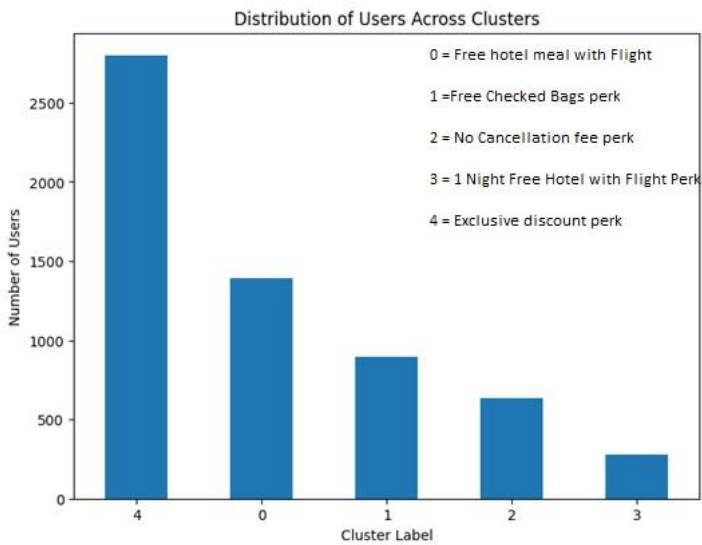
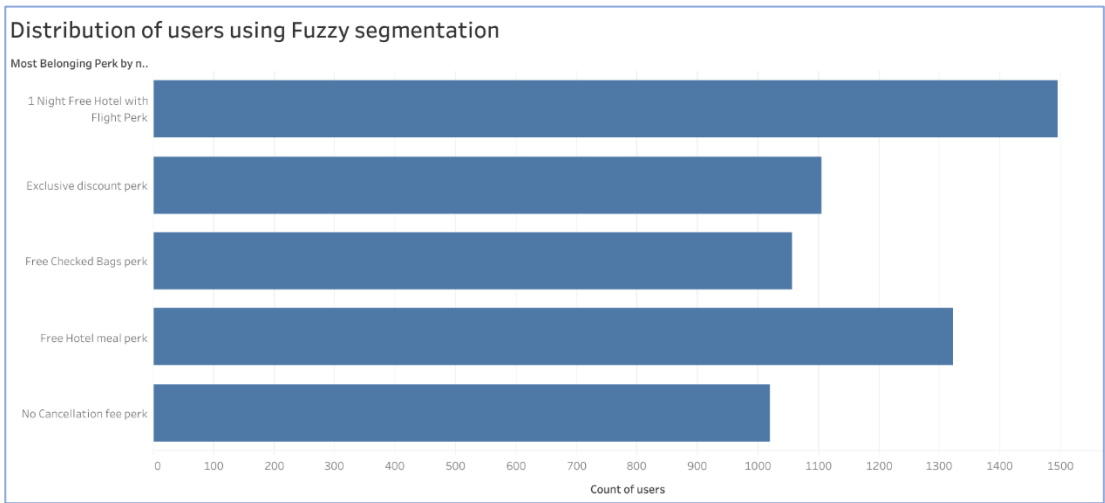
First, we'll see if the data backs up the idea that certain customers are extra interested in the perks as the marketing team suggested. After that, we'll figure out which perk is most likely to be a customer's favorite.

Methodology

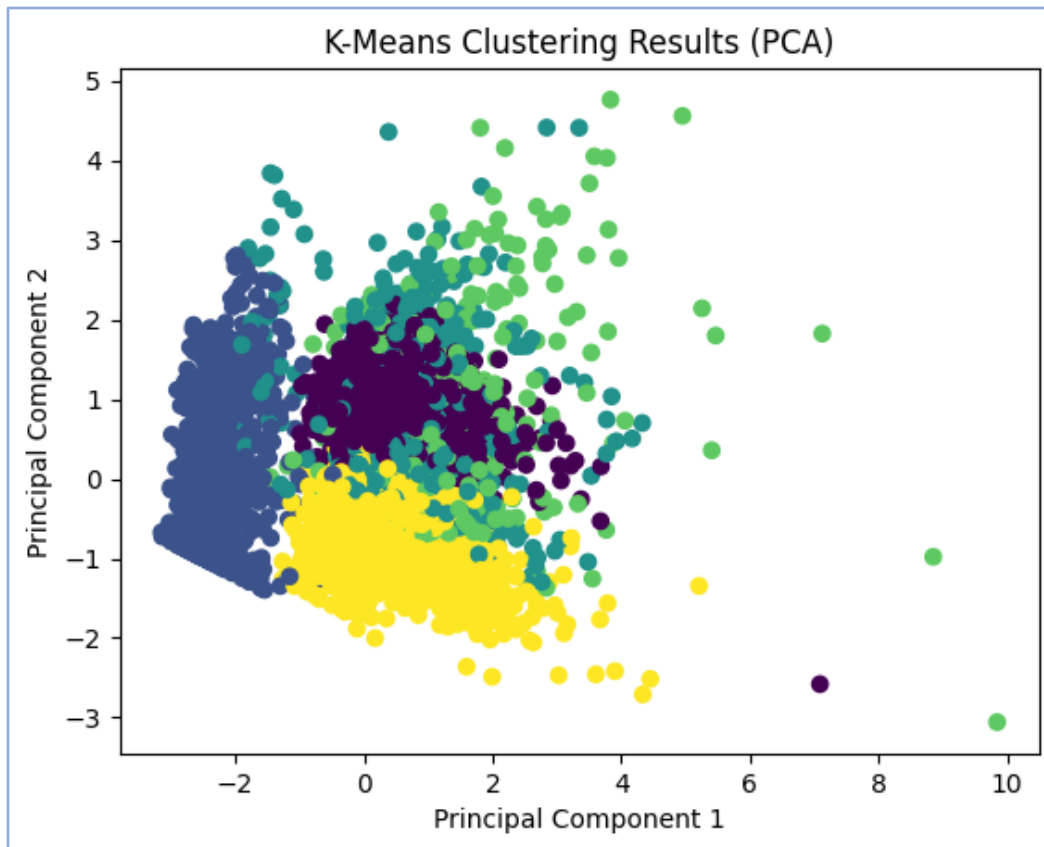
Several behavioral and demographic metrics were calculated for each of the perks and an affinity score/index was calculated by summing up the scaled version of the metrics. This was done for each perk separately. And a fuzzy segmentation was done based on the ranking to assign users to the different perks. To cross validate this Kmeans clustering was also done.

Key Findings + Visual

The visuals of the distributions using the fuzzy segmentation and kmeans clustering are presented below.



Distribution from the K-means clustering



Recommendations/Next Steps

All our customers have been put into groups using a method called Fuzzy segmentation. But, there's a quirk with this method. Sometimes, even if you don't love a perk very much, you might end up in that group just because your score was the lowest out of all the perks. This could affect how well our rewards program works. Also, tiny changes in your score can put you in a different group.

We tried another way to group customers called K-Means clustering. It shows that the groups are kind of separate and similar, but not perfectly different. So, our grouping is pretty good, but it can be even better.

When we compared both methods, they were somewhat similar but not exactly the same. So, we're giving you the groups made with Fuzzy segmentation, but we're not including the ones from K-Means because they don't tell us much extra. We might try different ways to group customers later to see if we get better results.

Also, it's important to find good data from reliable sources to figure out which behavioral metrics determine customers preferences towards different perks.