



TRAVELTIDE CUSTOMER SEGMENTATION

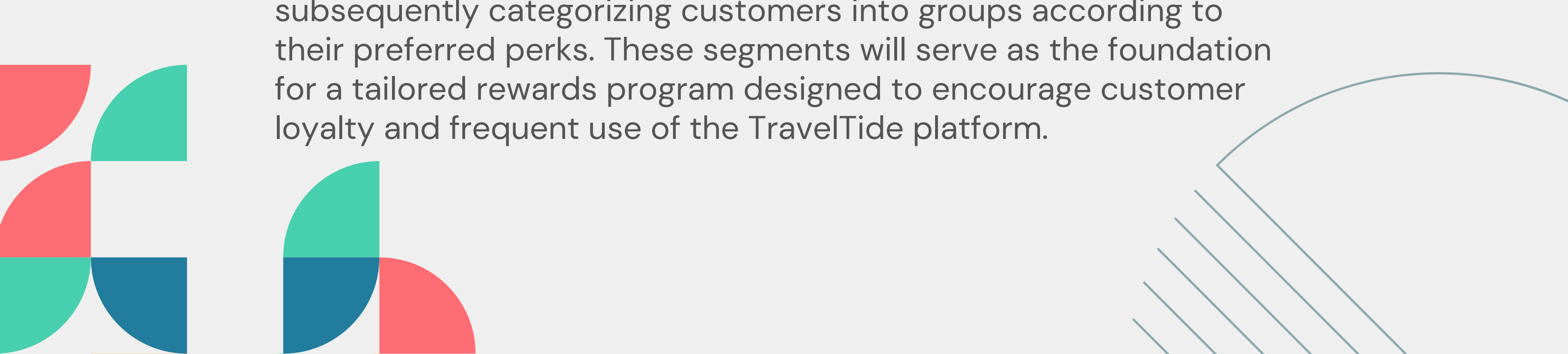


By Fatemeh Chavoshian

The top-left corner features a series of thin, light blue diagonal lines. The top-right corner contains several overlapping quarter-circles in teal, yellow, and coral colors.

PROJECT'S OBJECTIVE

The goal of the project is to determine the most appealing rewards for individual customers based on their behavior and preferences, subsequently categorizing customers into groups according to their preferred perks. These segments will serve as the foundation for a tailored rewards program designed to encourage customer loyalty and frequent use of the TravelTide platform.

The bottom-left corner features overlapping quarter-circles in coral, teal, and dark teal colors. The bottom-right corner contains thin, light blue diagonal lines and a large, thin, light blue arc.

The Most Attractive Perks

Free Hotel Meal

- Metrics: Proportion of booking with hotel discounts, average saving per night, average discount

Free Checked Bag

- Metrics: The average number of checked bags per flight

No Cancellation Fees

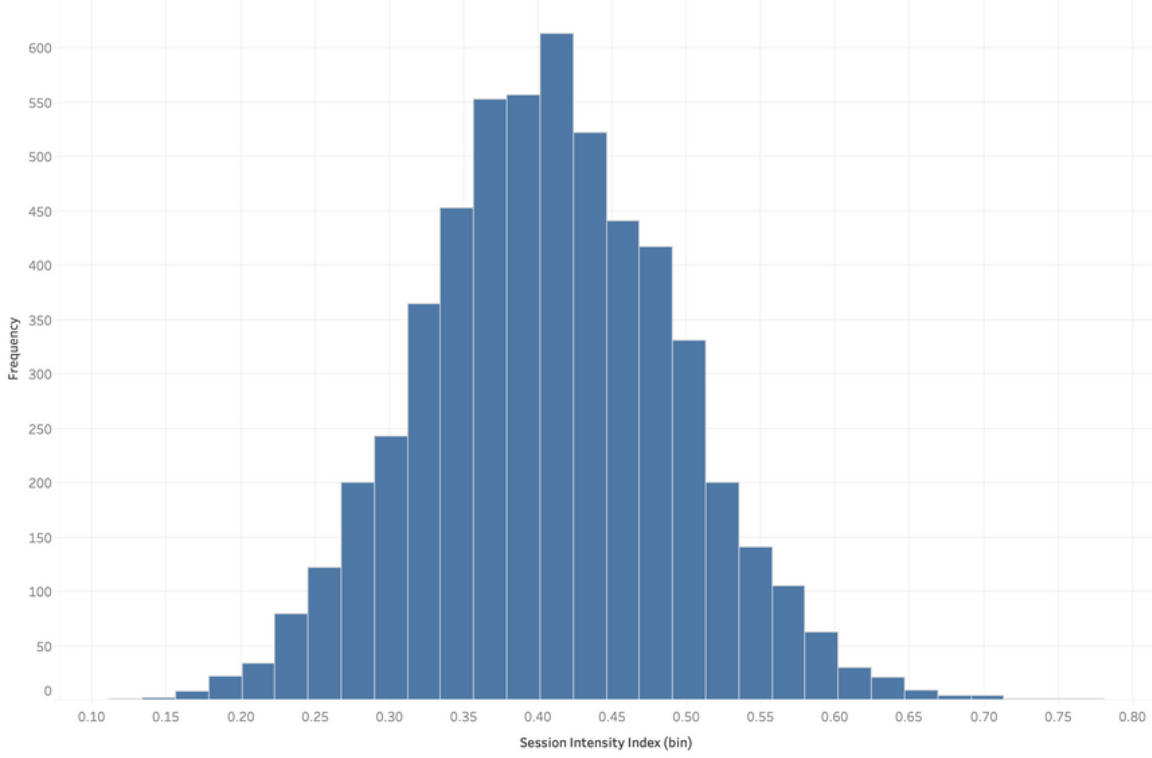
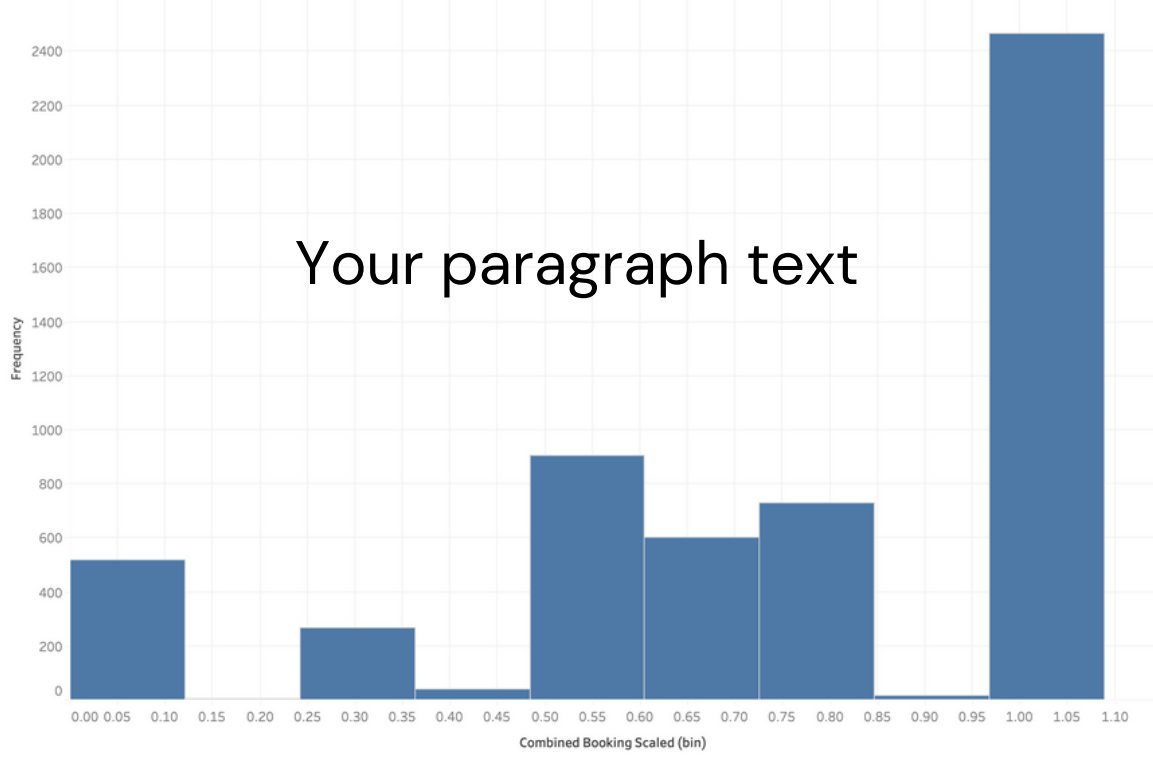
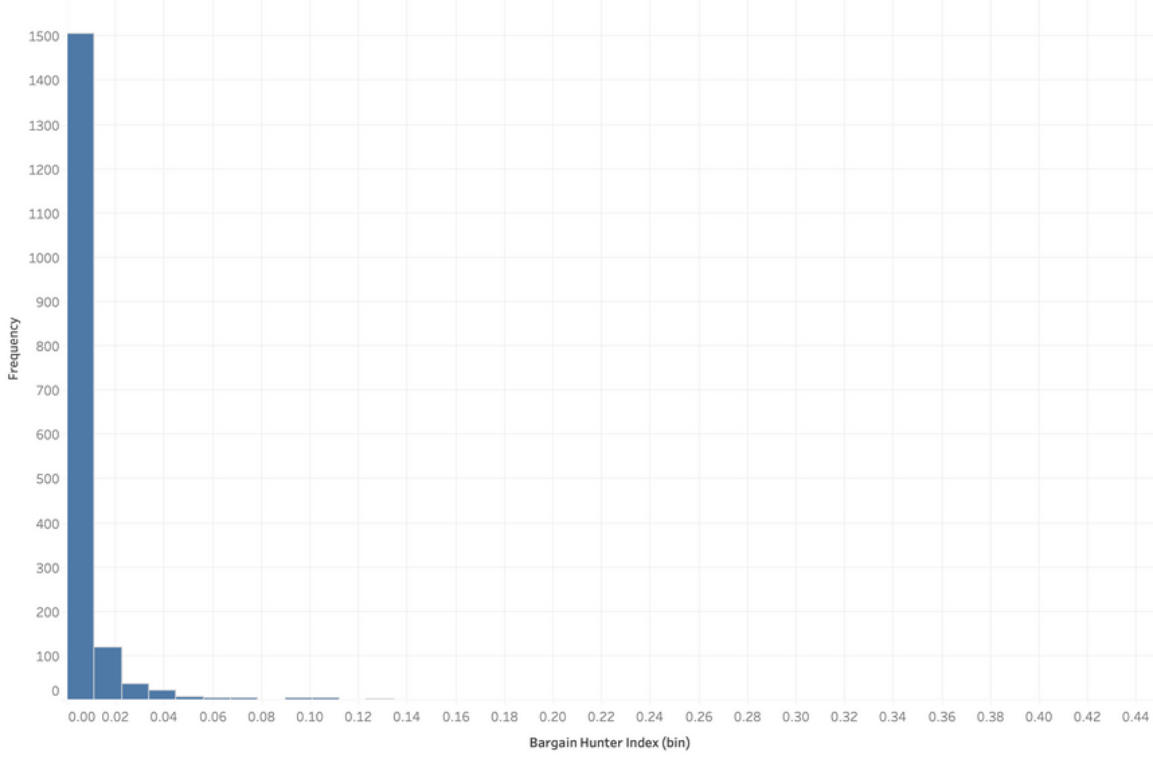
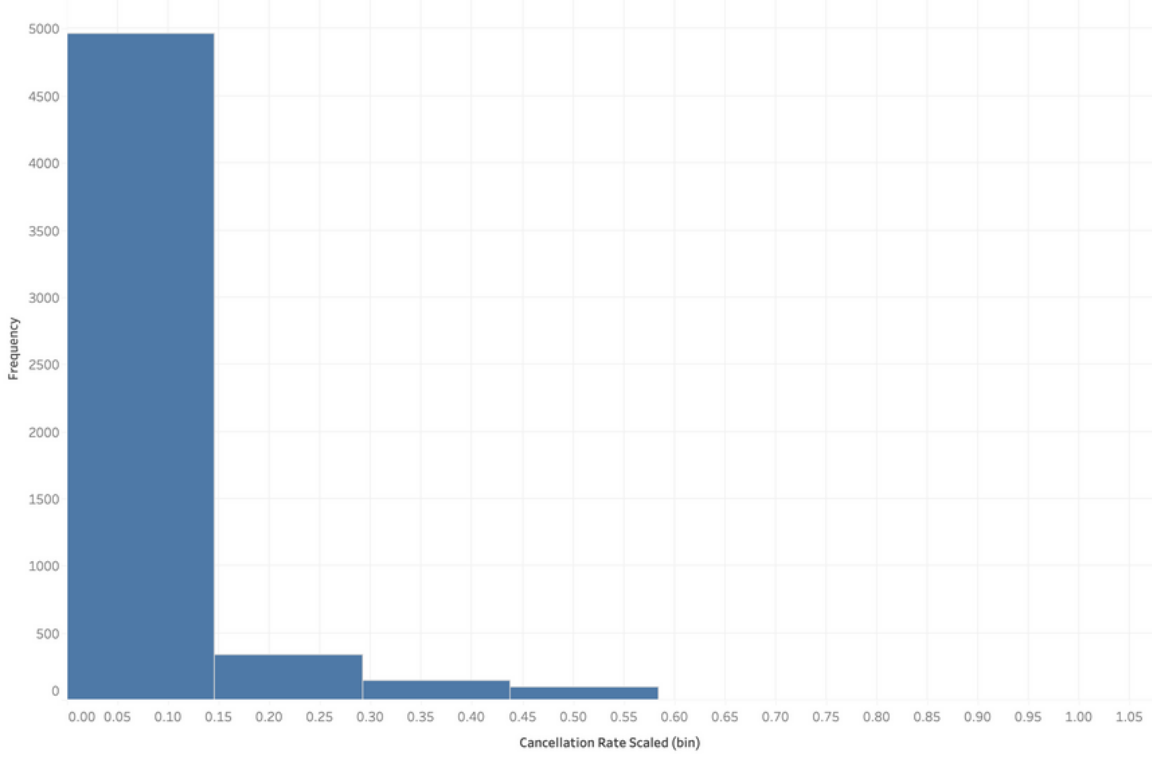
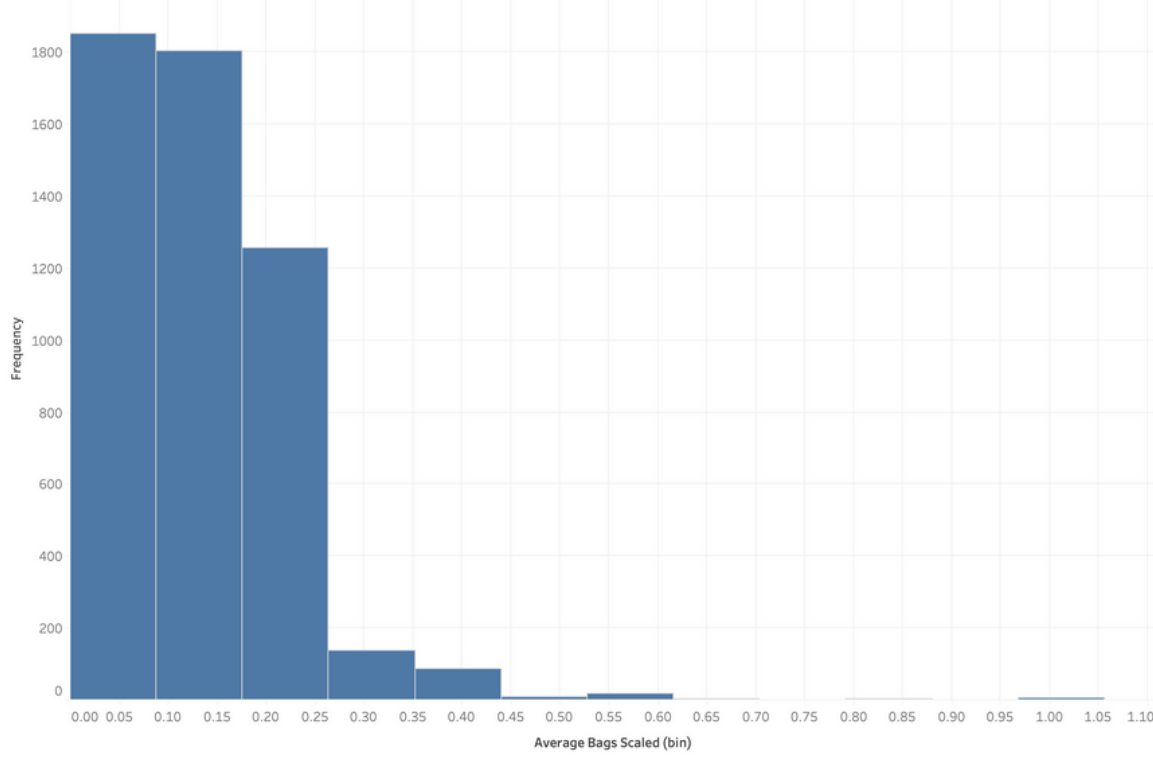
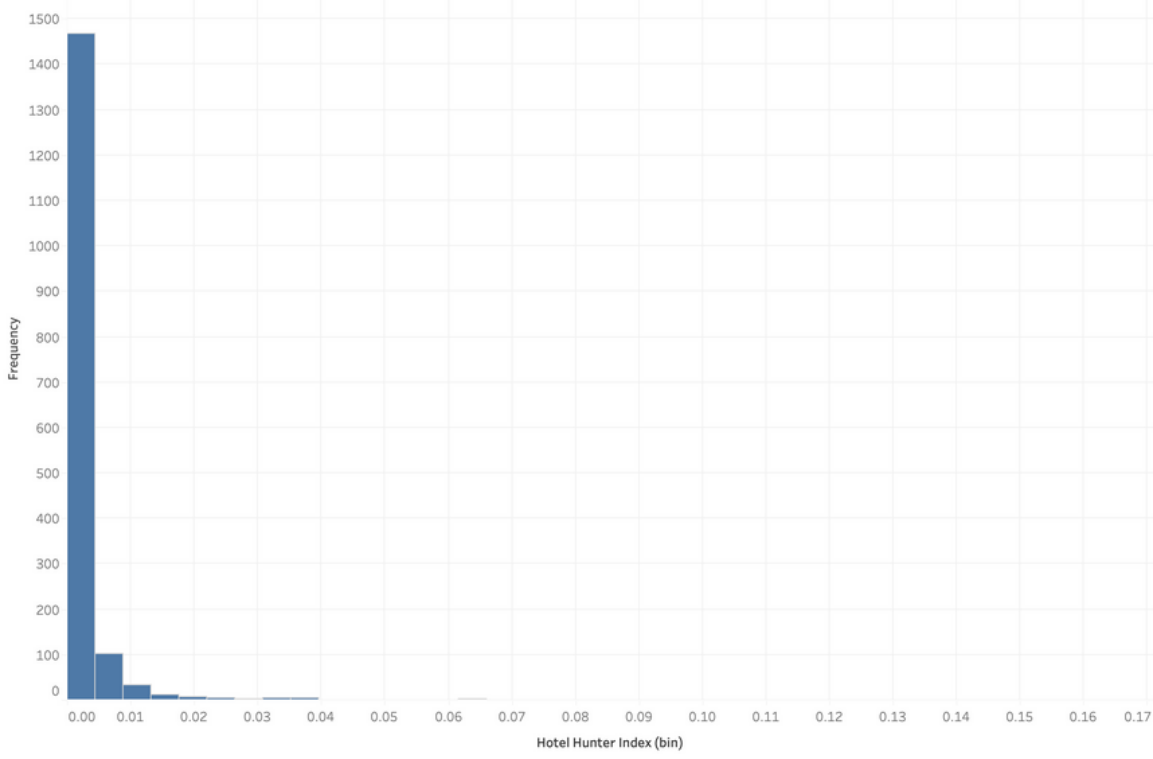
- Metrics: Percentage of booked flights or hotels that were canceled

Exclusive Discount

- Metrics: Proportion of booking with flight discounts, average saving per km, average percentage discount

1 Night Free Hotel with Flight

- Metrics: Proportion of booking a combination of flight and hotel compared to all bookings



As observed in the histograms, the Average Bags Index, Hotel Hunter Index, Bargain Hunter Index, and Cancellation Rate exhibit **right-skewed distributions**, which suggests that most customers have lower levels of engagement in activities such as checking bags, hunting for hotel deals, seeking discounts, or experiencing cancellations. In contrast, the Combined Booking Index tends to display a **left-skewed distribution** that indicates that a lot of customers book hotels and flights together. The Session Intensity Index closely approximates a **normal distribution**.

Customer Segmentation Steps

1

Ranking customers by each of the indexes in descending order. (For these indexes, a lower rank indicates better customer performance)

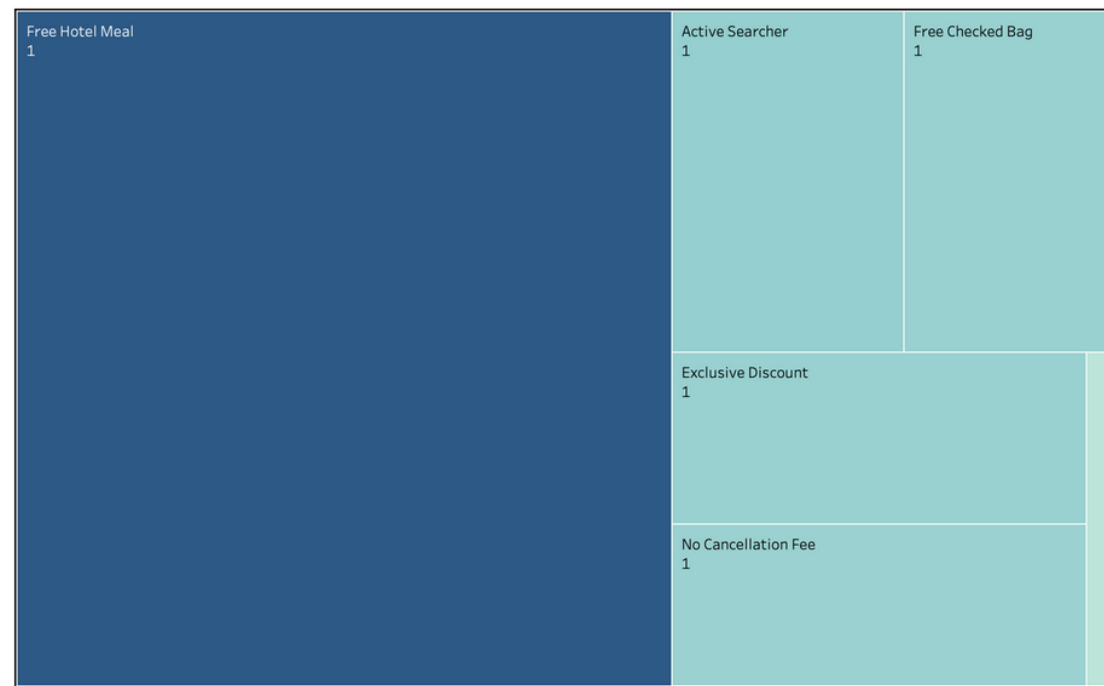
2

Determining the minimum rank for each customer

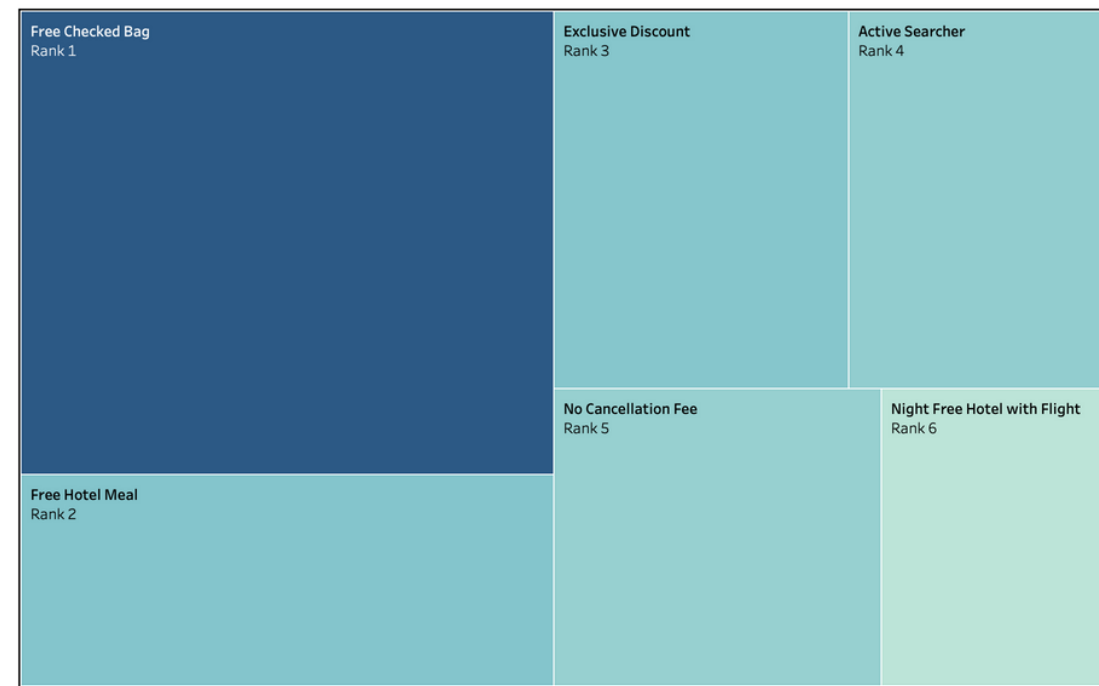
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Determining the most attractive perk for each customer based on the minimum rank. If a customer has multiple indexes with the same minimum rank, we will classify the customer based on the first minimum rank encountered.

Hotel Hunter Index



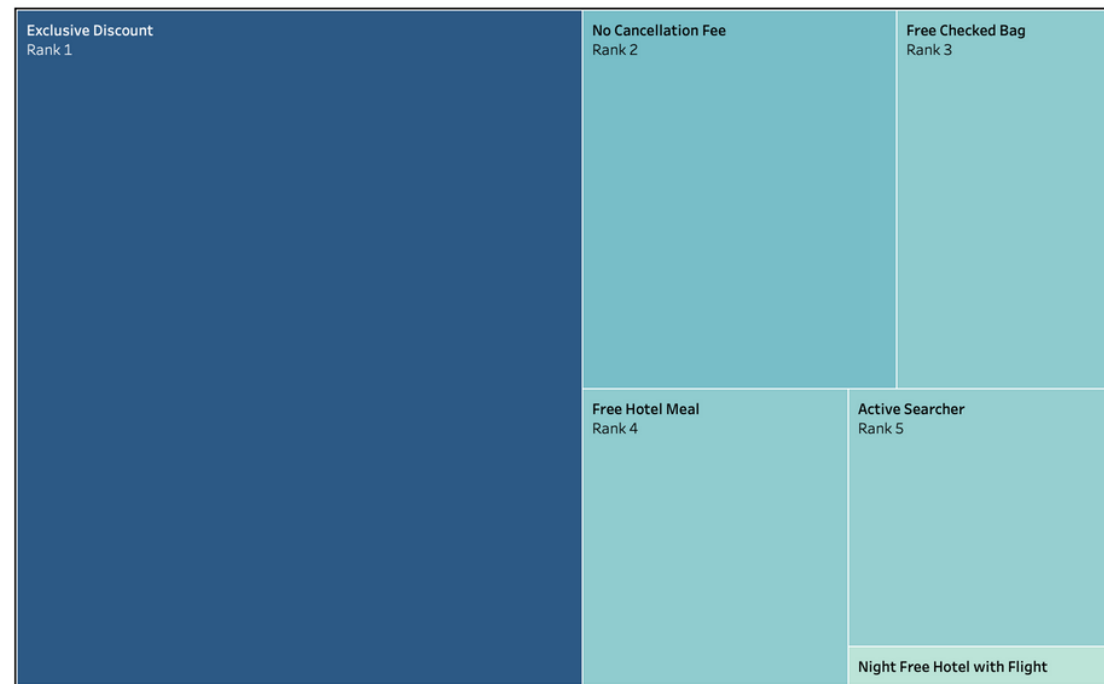
Average Bags Scaled



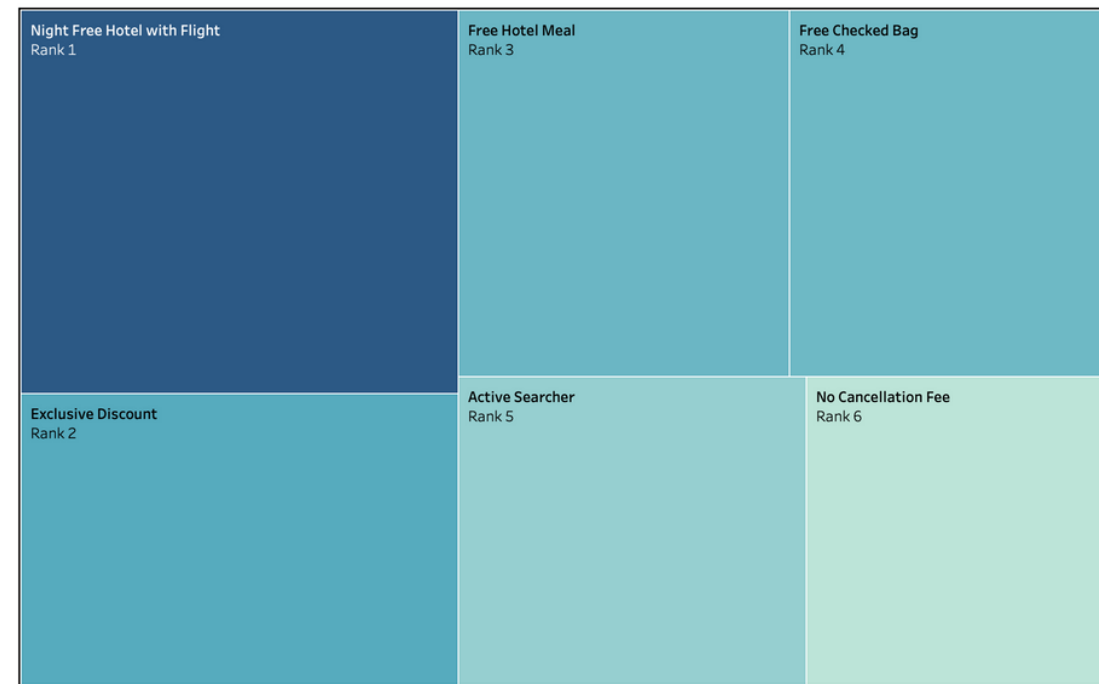
Cancellation Rate Scaled



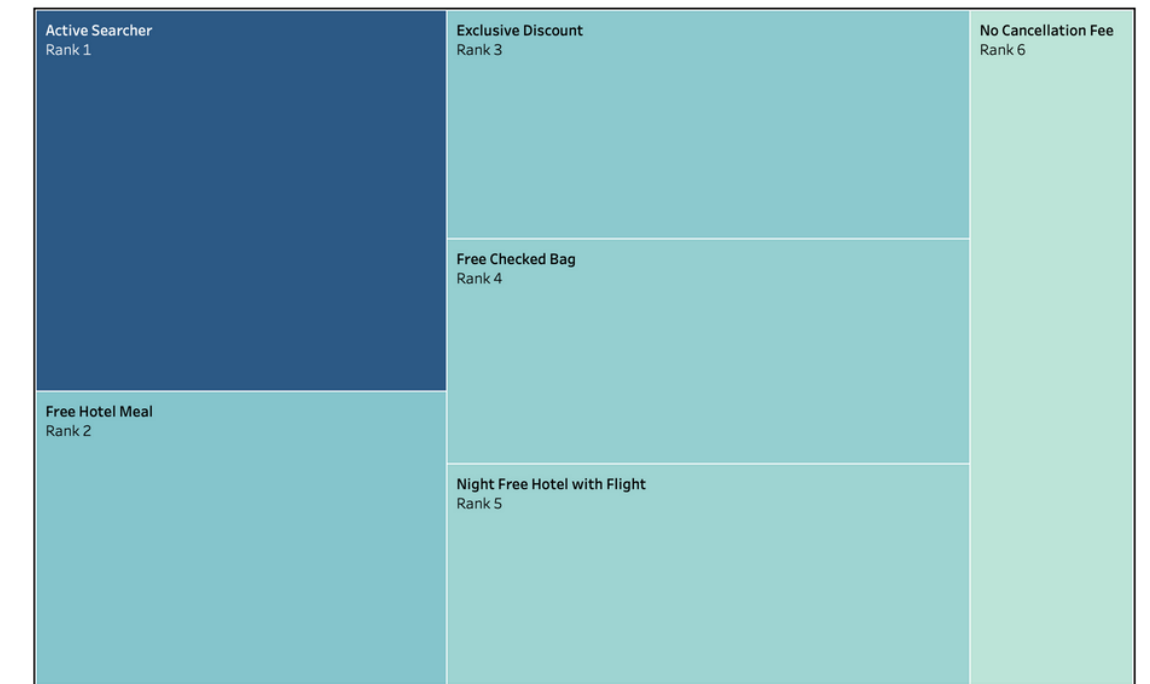
Bargain Hunter Index



Combined Booking Scaled



Session Intensity Index



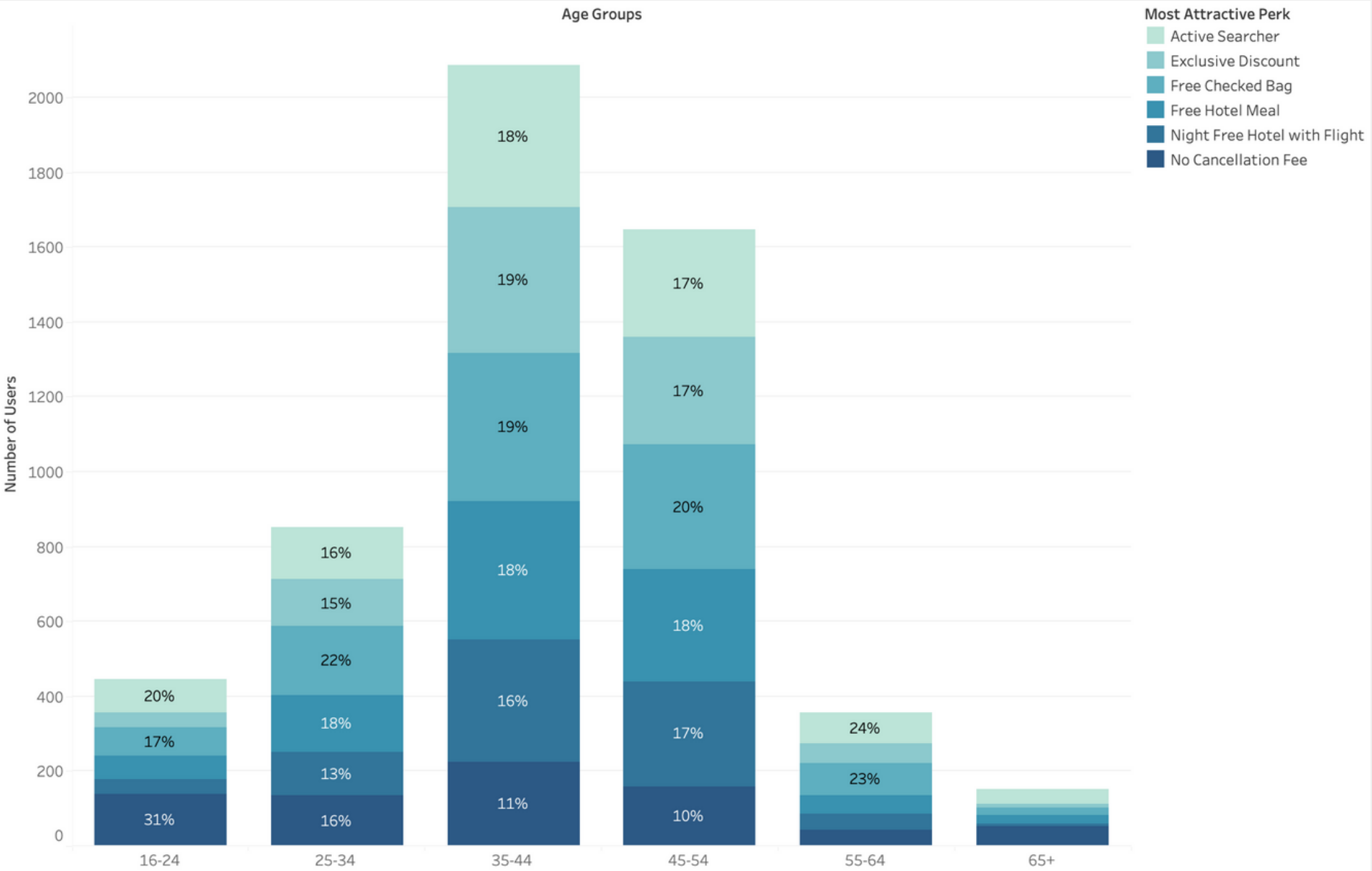
- In the treemaps for each index, we can observe that customers with matching perks exhibit the highest index indicators. This reinforces the validity of our segmentation approach
- Among customers with high session activity, a significant portion falls into the "Active Searcher" category. Interestingly, many of them also display non-null index values, particularly in the Hotel Hunter Index and Bargain Hunter Index. This suggests that offering them one of these perks could be a promising strategy



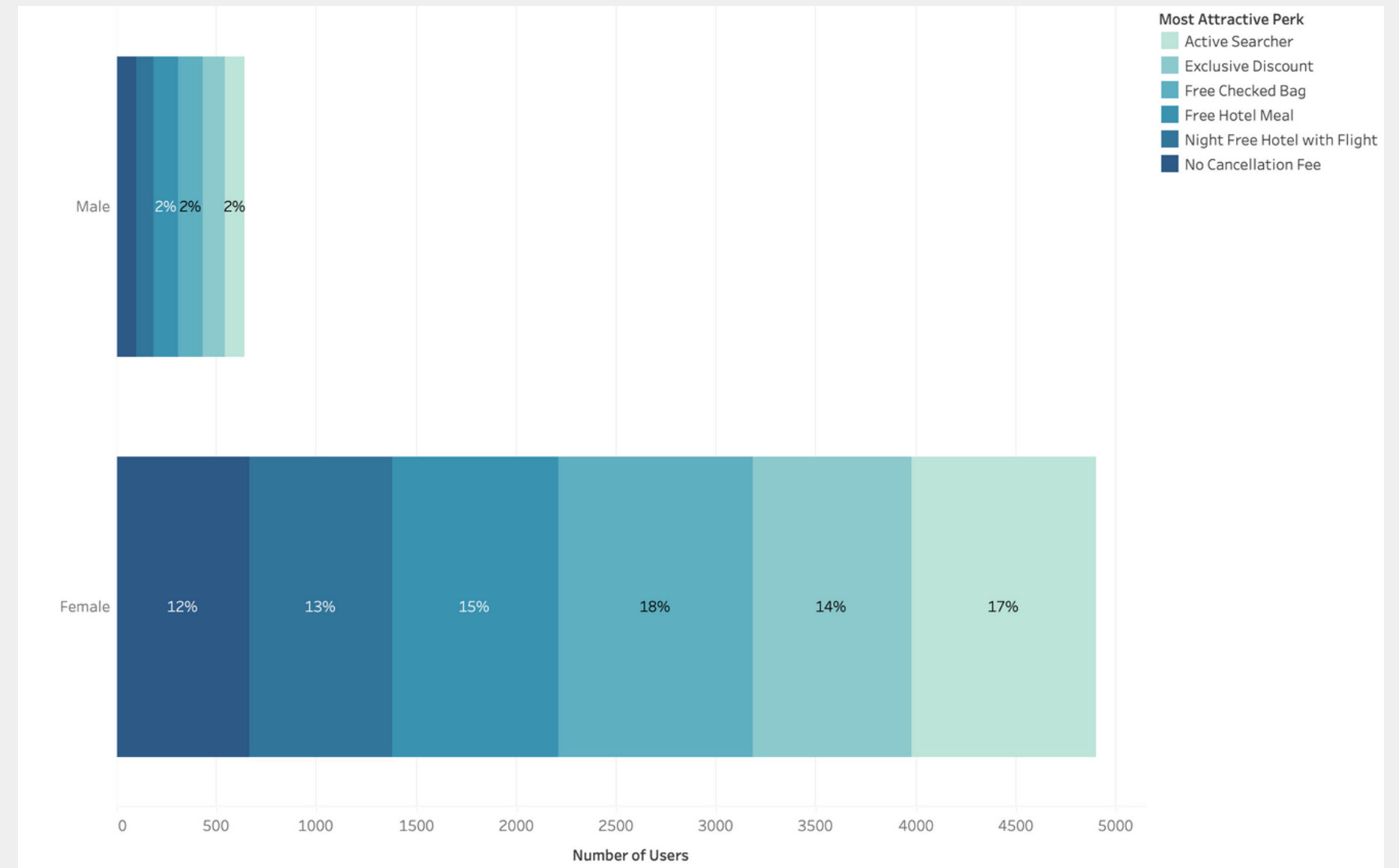
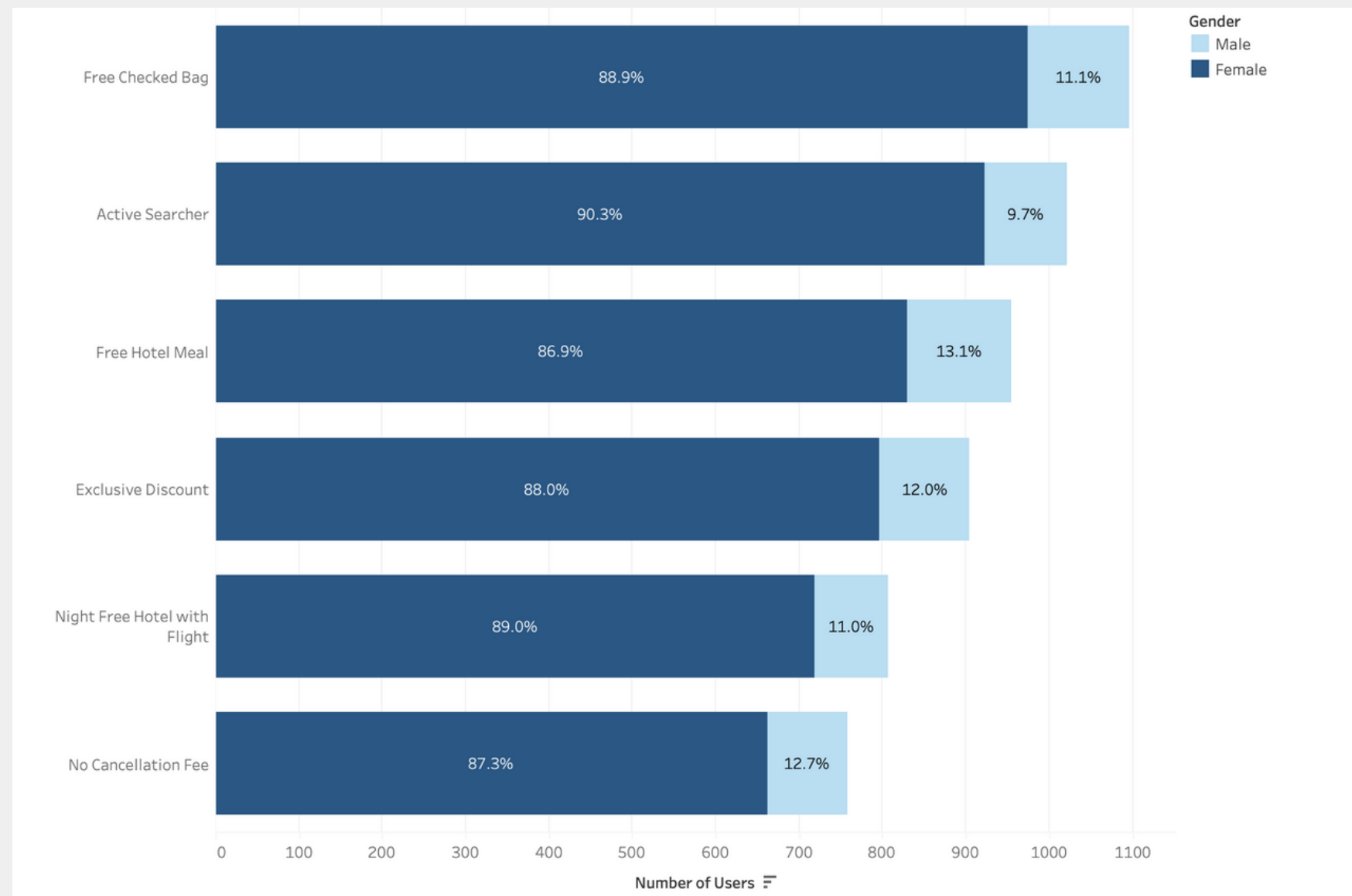
ANALYSIS BY DEMOGRAPHIC CHARACTERISTICS

Age Groups

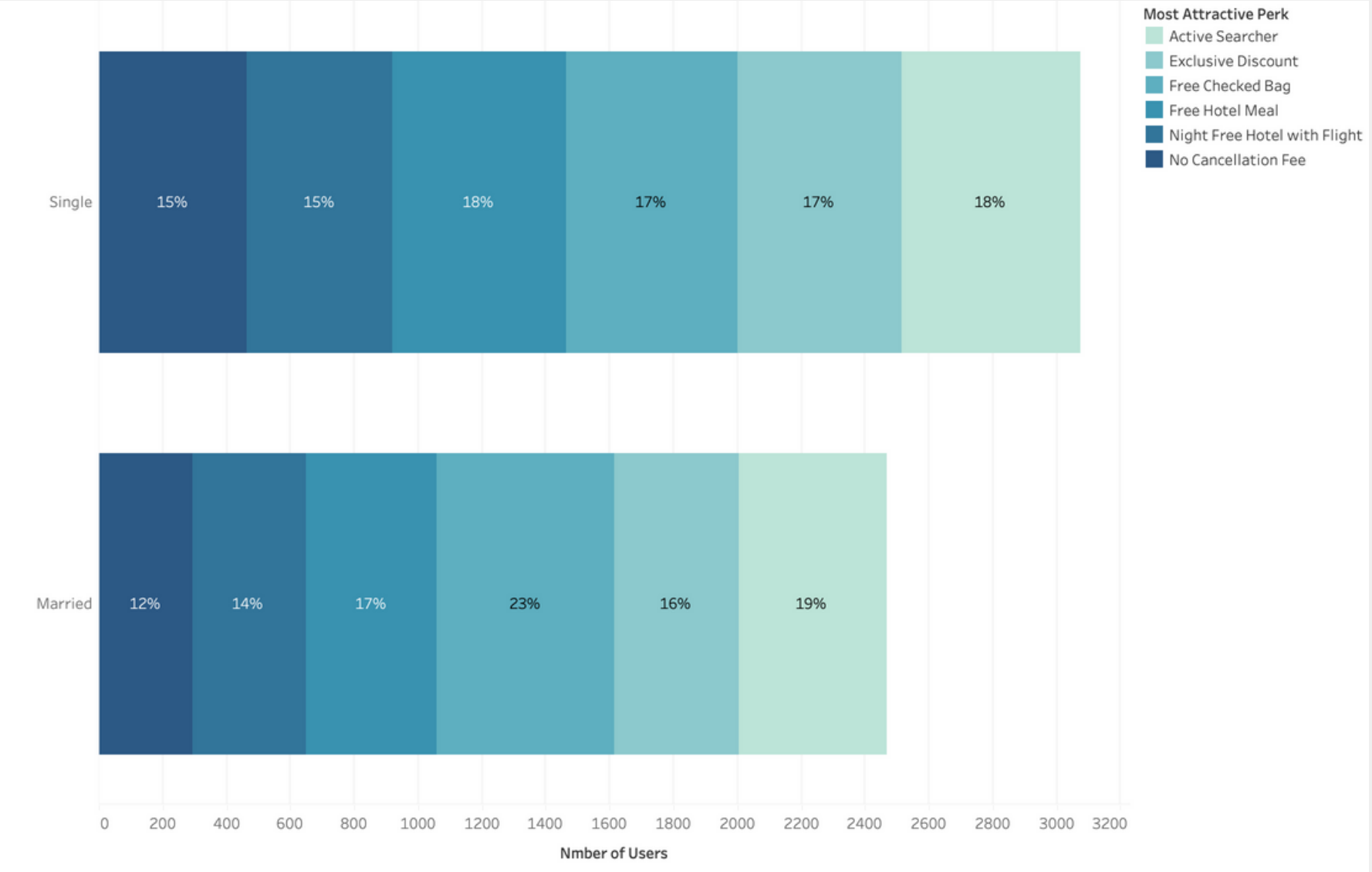
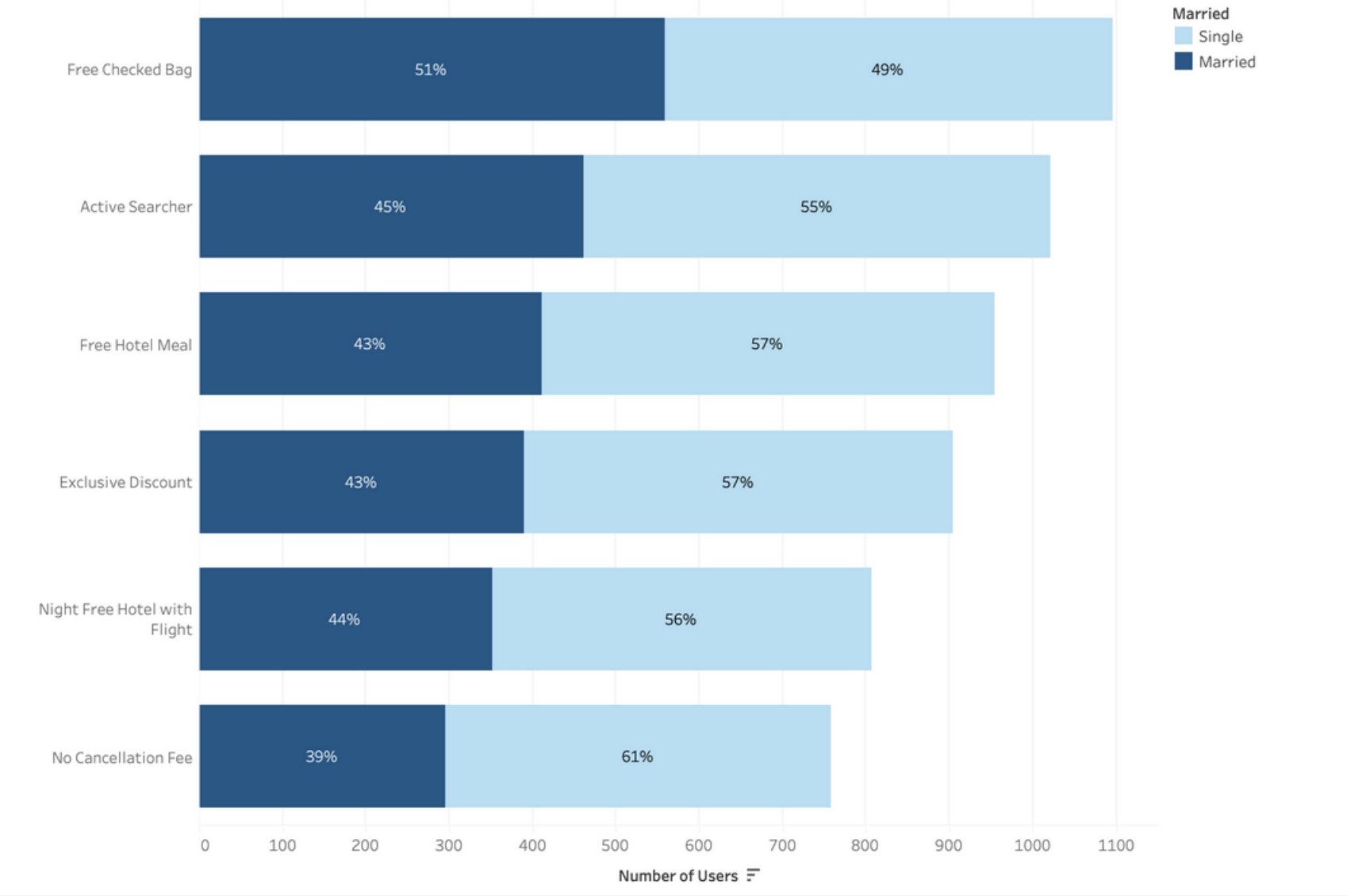
Most Attractive Perk	16-24	25-34	35-44	45-54	55-64	65+
Active Searcher	20.2%	16.3%	18.3%	17.4%	23.7%	26.1%
Exclusive Discount	8.5%	15.0%	18.6%	17.4%	14.8%	7.2%
Free Checked Bag	17.1%	21.6%	19.0%	20.4%	23.5%	13.7%
Free Hotel Meal	13.9%	17.6%	17.7%	18.3%	14.0%	15.0%
Night Free Hotel with Flight	9.0%	13.5%	15.6%	16.9%	12.3%	2.6%
No Cancellation Fee	31.2%	16.1%	10.8%	9.7%	11.7%	35.3%



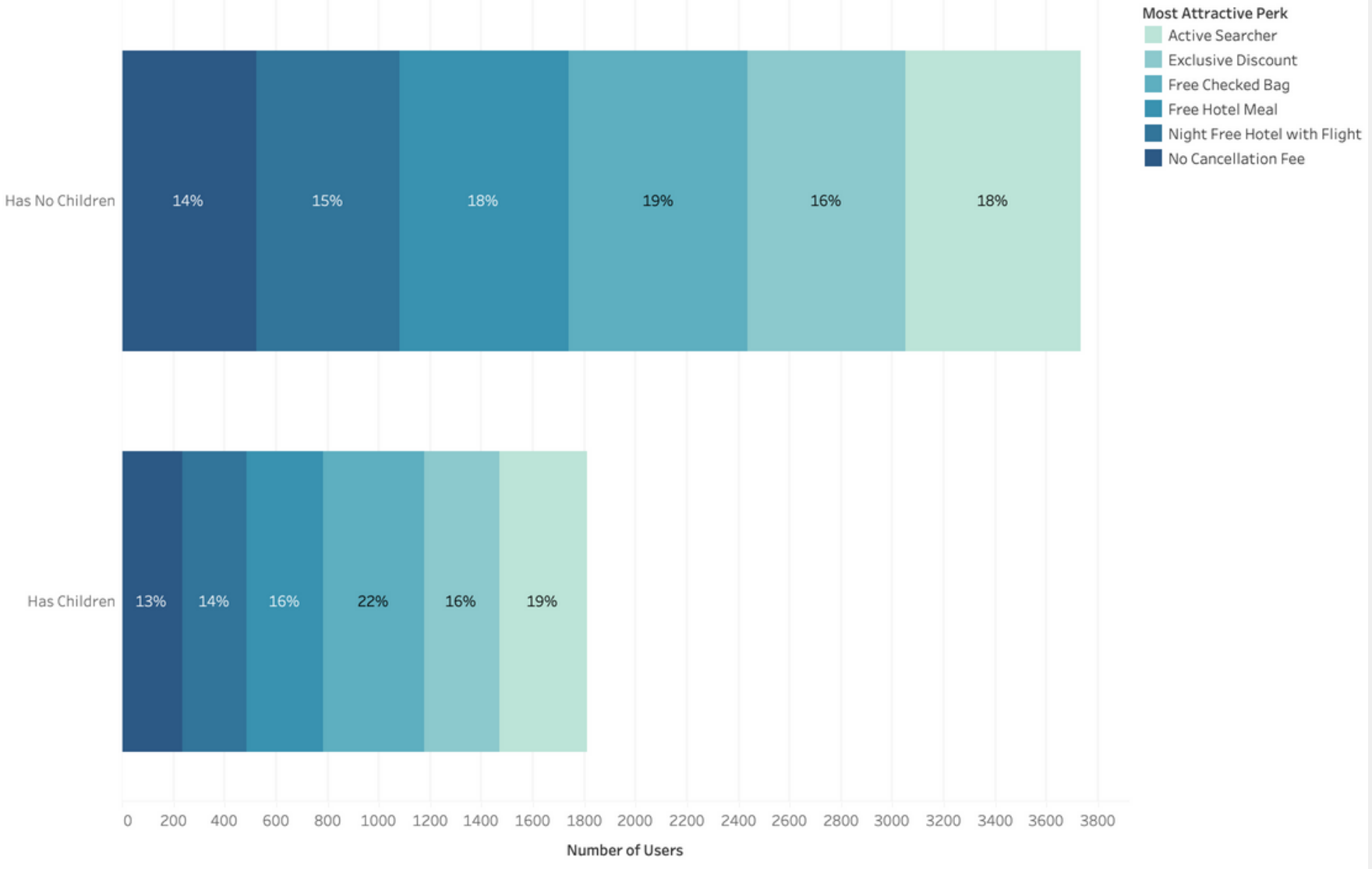
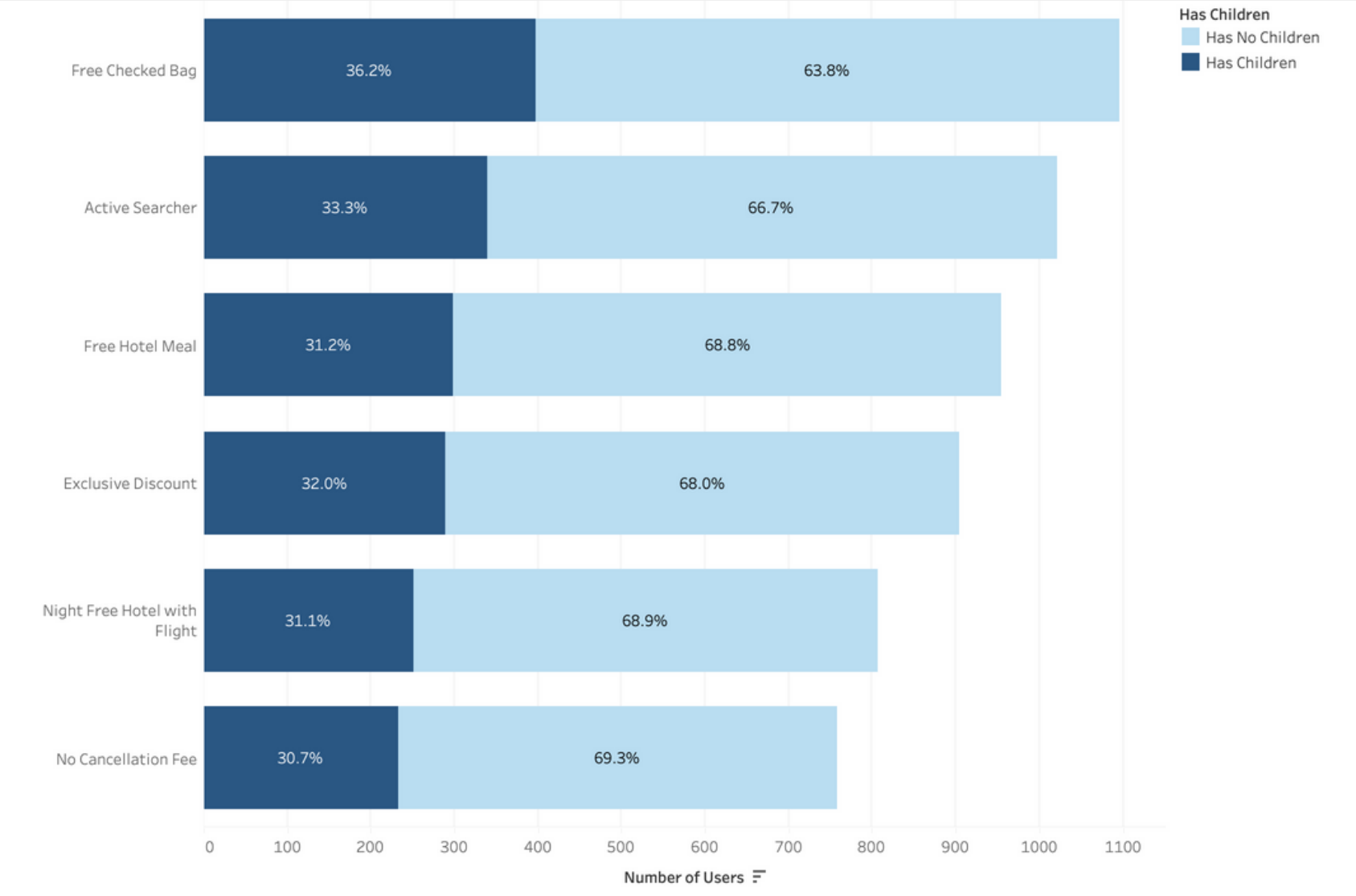
Gender



Marital Status



Has Children Status



Summary

Segmentation Based on Behavior

We successfully segmented customers into distinct groups based on their behavior and preferences using a combination of calculated indexes. Customers with matching perks tended to have higher index indicators, affirming the accuracy of our segmentation approach.

Active Searcher Group

Customers labeled as 'Active Searchers' display a strong inclination towards hotel and flight discounts. Therefore, it would be advisable to offer them perks related to these categories. However, it's essential to consider their demographic characteristics for more targeted recommendations. For instance, users in the age group 35-44 appear to be more interested in flight discounts, while users aged 45-54 show a greater preference for hotel discounts. As a result, offering a 'Free Hotel Meal' may be a more attractive option for the latter group.



Recommendations

A/B Testing

Conduct A/B testing to evaluate the effectiveness of different perks and promotional strategies before scaling them to the entire user base.

Continuous Monitoring

Regularly monitor user behavior and preferences to adapt and refine the perks and promotions strategy over time.

Feedback Loop

Implement a feedback system to gather insights and opinions directly from users to further enhance the perks and rewards program

Engage "Active Searcher" Users

Develop and implement a system of key demographic and session behavior characteristics that can be used to label by their most attractive perk even if they haven't made any bookings yet or don't have a sufficient number of sessions.

The background features several decorative geometric elements. In the top-left corner, there are thin, parallel diagonal lines. In the top-right corner, there is a cluster of overlapping semi-circles in teal, orange, and red. In the bottom-left corner, there is another cluster of overlapping semi-circles in teal, orange, and red. In the bottom-right corner, there is a large, faint, light-blue circular arc and some thin diagonal lines.

THANK YOU