TravelTide data segmentation project's summary

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Introduction/Objectives

Our current project's mission is to design and execute a personalized rewards program that keeps clients returning to the TravelTide platform. In order to achieve those goals, our analysis aimed to identify customers' preferences regarding to five perks proposed by Elena which is: Free hotel meal, Free checked bag, No cancellation fees, Exclusive discount and 1 free night in the hotel with flight. We have to check if our data supports the theory that clients would be **really** interested in those perks and then assign each customer to the proper one.

Methodology

By using advanced SQL queries, Fuzzy segmentation technique and Tableau we categorized our customers into 5 different segments each aligned with proposed perks and made a histograms to visualize distributions (see link attached in a bottom). In our analysis we considered various customer interactions, such as booking behaviors, travel frequency etc. Outliers were handled by IQR method and MinMax scaling was used to avoid scale bias. All indexes were derived from 2 or more metrics with no strong correlation between them.

Key findings

Finding 1: "Free Hotel Meal" offer. Group size: 933 users
Meal hunter index is summing the average number of rooms booked by a customer with the average number of nights. This index aims to capture the behavior of customers who tend to travel in groups for extended stays, potentially indicating an interest in meal-related perks, like evening socials with snacks.

Finding 2: "Free checked bag" offer. Group size: 1673 users
For identifying customers especially interested in "Free Checked Bag" perk, a simple behavioral metric was used — average luggage pieces per user.

Finding 3: "No cancellation fee" offer. Group size: 1233 users
An index that sum up the cancellation proportion and the number of completed trips on customer level was devised. This index identified customers interested in the perk while also accounting for their commitment to travel.

Finding 4: "1 Night Free Hotel with Flight" offer. Group size: 857 users
The maximum distance traveled per user was used as metric. Our rationale was that customers covering longer distances would likely arrange flights and, consequently, prefer extended stays.

**Finding 5: "Exclusive discounts" offer. Group size: 1302 users**
The "Bargain Hunter Index" that amalgamates the percentage of discounted flight

purchases, the average discount size on flight purchases, and dollars saved per kilometer was created to identify most price-sensitive discount-responsive clients.

Conclusions/Recommendations

Both project's objectives were achieved. The data generally supported Elena's theory about the reward program's perks which could interest our customer's base.

1) **Travel Comfort Matters**: The "Free Checked Bag" perk appears to be the most popular. The message is clear - we should pay special attention to offers that enhance customers' travel comfort. But is it so straightforward? See the distribution below. Does it seem stable?

Average luggage pieces per user
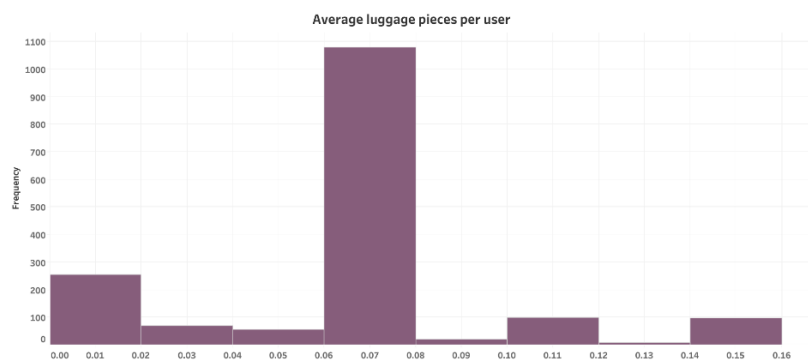
2) **Stability is a key**: "Exclusive Discounts" perk took the second place. What's intriguing is that this clients' interest here is more evenly spread out among users, making it a stable and reliable choice for the future development. See the distribution below and compare to the previous one.

Histogram for Bargain index
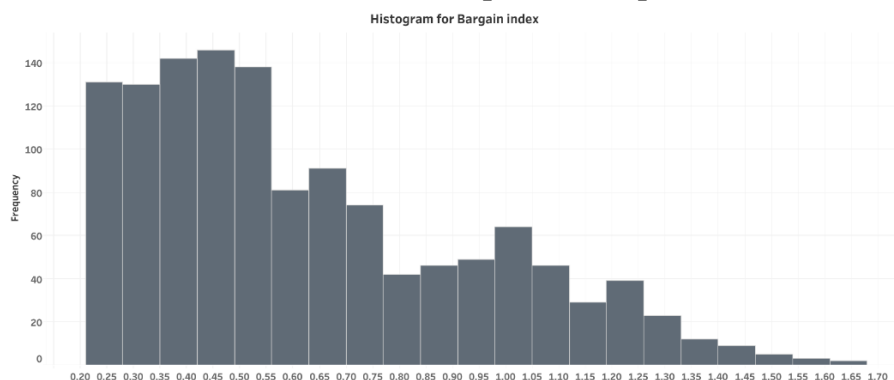
3) **Long-Distance low popularity**: With 857 clients assigned, the "1 Night Free Hotel with Flight" perk appears to be the least popular, which tells us that other types of offers should be prioritized.

Tableau workbook:
https://public.tableau.com/views/TravelTideprojectworkbook/MealHunterindex?:language=en-US&:display_count=n&:origin=viz_share_link