

Executive Summary – Travel Tide Customer Segmentation

Business Context

Travel Tide operates in a highly competitive digital travel market where customer retention and personalization are critical for sustainable growth. Data-driven insights into customer behavior are essential to improve engagement and optimize marketing investments.

Objective

The objective of this project was to identify actionable customer segments based on behavioral and transactional data to support management decision-making.

Approach

- Integration and preparation of user, session, and trip data
- Feature engineering capturing engagement, booking behavior, and cancellations
- Dimensionality reduction using PCA
- Customer segmentation with K-Means, validated by the Silhouette Score

Key Insights

- Customers cluster into clearly distinct segments with consistent behavioral patterns
- Segments differ mainly in engagement intensity, booking frequency, and cancellation behavior
- Results show four distinct clusters that can be matched with individual perks
- Cluster 0: Premium Travelers → 1 night free hotel with flight
- Cluster 1: Deal Seekers → exclusive discounts
- Cluster 2: Undecided Travelers → no cancellation fees
- Cluster 3: Frequent Travelers → free checked bag or free hotel meal

Business Value

The segmentation enables:

- Targeted and personalized marketing initiatives
- Improved customer retention and lifetime value
- More efficient allocation of marketing and incentive budgets

Conclusion

This project demonstrates how machine learning-based customer segmentation can be translated into concise, decision-ready insights. The results provide Travel Tide with a scalable foundation for data-driven customer strategy and personalization.