

EXECUTIVE SUMMARY

Anupa Jacob Parady

TravelTide's customer segmentation project delivered a robust data-driven framework for launching a tailored rewards program, defining five distinct segments and aligning each with specific perks to enhance loyalty and drive revenue growth.

OBJECTIVES

TravelTide aimed to strengthen customer engagement by segmenting users based on booking behaviors and assigning targeted rewards. The methodology combined advanced analytics—feature engineering, PCA for dimensionality reduction, and K-means clustering—validated via silhouette scores for precision.

METHODOLOGY

☐ Aggregate & Engineer Features

Transform session-level bookings into robust user profiles capturing key behavioral and demographic insights.

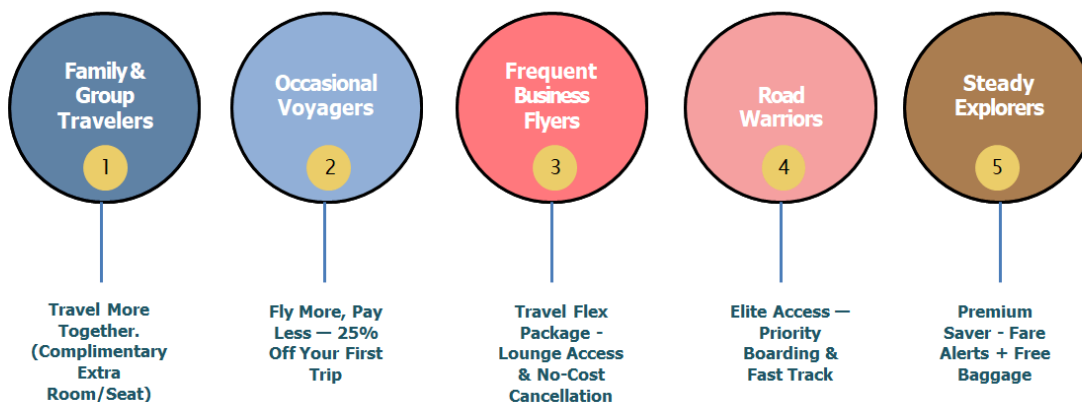
☐ Prepare the Data

Standardize numeric features; impute intelligently (zero or median); eliminate bias-inducing outliers for a clean dataset.

☐ Cluster with Precision

- Reduce dimensions using **PCA** — preserve meaningful variance and support 2D/3D visual storytelling.
- Execute **K-Means** on PCA output targeting five clusters for perk alignment.
- Validate segments with **silhouette scores** to ensure clarity and distinctness.

CUSTOMER SEGMENTS & MATCHED PERKS



RECOMMENDATIONS

- **Focus on High-Revenue Segments:** Prioritize Road Warriors and Steady Explorers to drive long-term value through loyalty and upsell initiatives.
- **Encourage Occasional Voyagers:** Use bold welcome offers to turn high volume into higher engagement and revenue.
- **Retain Frequent Business Flyers:** Offer premium perks and flexible services to strengthen loyalty among high-spending users.
- **Engage Family and Group Travelers:** Use seasonal offers during low-demand periods, combining comfort upgrades and group perks.
- **Measure & Refine by Segment:** Track KPIs to evaluate perk effectiveness and continuously optimize strategies.

CONCLUSION

This segmentation project positions TravelTide to align marketing actions closely to customer needs, ensuring improved loyalty, higher retention, and sustainable financial growth.