

# TravelTide Rewards Program

## Customer Insights & Strategy Brief

### 1. Background

TravelTide is a fast-growing online travel platform with a competitive edge in travel inventory aggregation and real-time search. While acquisition efforts have been successful, the company has yet to establish a structured customer retention strategy.

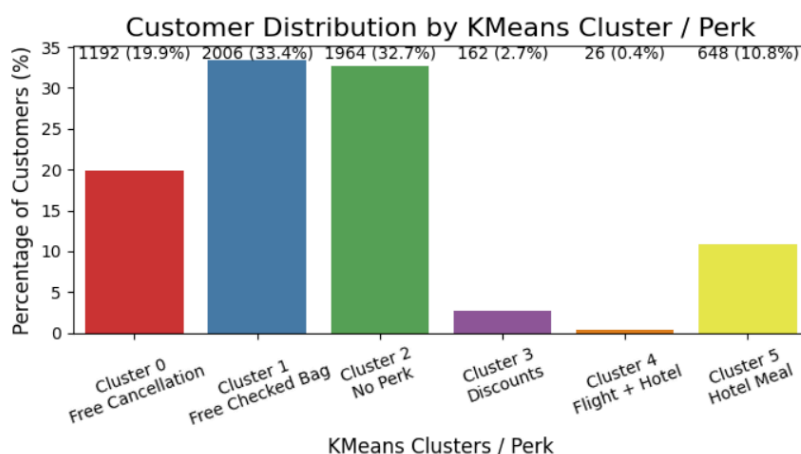
To address this, TravelTide is launching its first-ever **Rewards Program**. Ahead of the rollout, I conducted a **behavior-based segmentation** of the user base using **unsupervised learning techniques** to identify relevant customer groups and align them with strategic perks. The result is a data-driven foundation for a sustainable and personalized loyalty initiative.

### 2. Objective & Methodology

The objective was to **uncover natural user segments** based on platform behavior and match them with **tailored perks**. To do this, I designed new behavioral features related to five proposed rewards:

- Free hotel meal
- Free checked bag
- No cancellation fees
- Exclusive discounts
- 1 night free hotel with flight

Using **KMeans** and **DBSCAN**, I identified six distinct clusters. KMeans was ultimately selected due to its exceptional internal cohesion (**Silhouette Score > 0.95**).



**Figure 1: Customer Distribution by KMeans Cluster / Perk**

A bar chart showing relative user count per cluster with corresponding perk alignment.

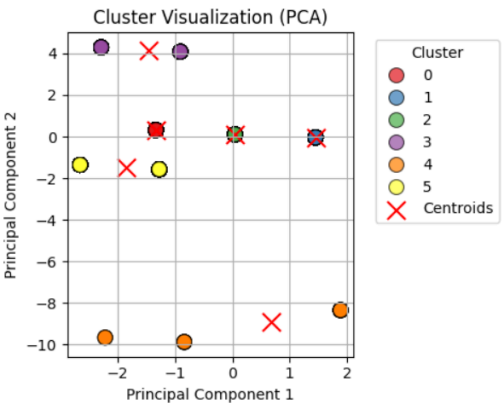
Dimensionality Reduction for Visualization

To visualize the clusters, I used **Principal Component Analysis (PCA)** to reduce the data to two dimensions.

Figure 2: Cluster Visualization (PCA)

Clear visual separation of clusters confirms strong internal segmentation and behavioral distinction.

Crucially, I engineered **custom features** and applied **IQR-based outlier filtering** to surface hidden user patterns—resulting in exceptional segmentation despite the overall uniformity of the dataset.



3. Key Findings & Reward Mapping

The clustering analysis revealed clear, behavior-based segments—each strongly associated with one key reward. The groups are both **cost-efficient** and **motivational**, offering targeted value where it matters most:

Segment	Reward Perk
High Spenders	Flight + Hotel Bundle
Discount-Oriented / New Users	Exclusive Discounts
Returning Users	Free Hotel Meal
Baggage Travelers	Free Checked Bag
Older Users / Non-Bookers	No Cancellation Fee

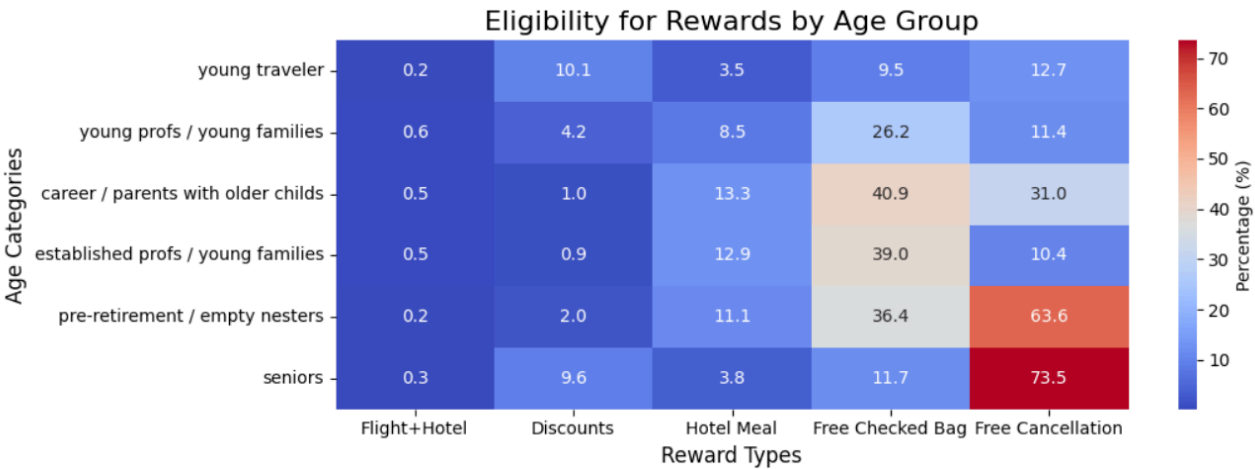


Figure 3: Eligibility for Rewards by Age Category

Heatmap showing age-based distribution of perk eligibility. Older travelers are more likely to qualify for cancellation flexibility, while younger users skew toward discounts or meal-based perks.

## 4. Strategic Implications

This segmentation-first approach ensures that TravelTide’s rewards program is **personalized from day one**. Each user can be addressed with **communications and perks tailored to their needs**, leading to better engagement and higher ROI.

### Expected Impact

- **+20–30%** CTR uplift via personalized emails
- **+15%** higher opt-in rate from perk-aligned messaging
- **Cost-efficiency** by rewarding high-value behaviors without unnecessary spend

## 5. Next Steps & Recommendations

### Immediate Actions:

- Tag current users with cluster and perk alignment
- Personalize onboarding and engagement messaging
- Integrate perk preferences into the Rewards Program interface

### Mid-Term Strategy:

- Conduct A/B testing of perk-specific messages
- Track CTR, opt-ins, and reward usage
- Adjust eligibility thresholds based on performance

## 6. Conclusion

The analysis confirms: **TravelTide’s user base is more segmented than it appears**—if you look beneath the surface. With smart feature engineering and outlier detection, I was able to expose deeply meaningful behavioral differences and align them with strategic perks.

This **data-driven rewards strategy** balances motivation with cost-efficiency. By launching on a segmentation-first foundation, TravelTide ensures its program rewards the right behaviors—and inspires the rest.

**Elena Tarrant’s vision**, paired with this analytical groundwork, means TravelTide isn’t just launching a loyalty program—it’s launching one that works.