


TravelTide Customer Segmentation & Rewards Strategy

Executive Summary

Project Title:

 *Booking Behavior & Travel Trends – A Data-Driven Story for TravelTide*

Overview:

This two-week project aimed to support TravelTide's new Head of Marketing, Elena Tarrant, in launching a personalized rewards program. By analyzing customer behavior data, we identified distinct customer segments and their preferences, enabling targeted marketing strategies to enhance customer retention.

Key Objectives:

- Analyze booking behavior across user demographics.
- Segment users based on trip behavior and platform engagement.
- Identify user preferences for reward perks.
- Deliver actionable insights through an interactive Tableau story.

Methodology: The project followed a 4-step analytics process:

1. **Data Exploration** – Understanding key variables and user patterns.
2. **Data Preprocessing** – Cleaning, formatting, and engineering features.
3. **Segmentation** – Grouping users by booking type and engagement.
4. **Presentation** – Visual dashboards & story explaining customer behavior.

Key Insights:

- Most users book both flights and hotels, contributing to the highest trip revenue.

- Unmarried users and those aged 35–44 have the highest booking rates.
- Engagement metrics (session duration & page clicks) strongly correlate with spending.
- Top destinations include New York, Los Angeles, and Toronto, with peak bookings in July and February.

Outcome:

An interactive Tableau story comprising four dashboards was created, summarizing core behavioral trends. These findings enable targeted communications for TravelTide's rewards program, increasing the chance of user engagement and retention.



Detailed Report

1. Project Background & Objective

TravelTide, a fast-growing e-booking platform, is renowned for its large travel inventory and powerful search technology. However, customer retention has lagged behind. Elena Tarrant, the new Head of Marketing, aims to implement a personalized rewards program. Our task as data analysts was to uncover behavioral segments and recommend which perks (e.g., free cancellation, discounts) to emphasize to different customer types.

2. Methodology and Workflow

A. Data Exploration

- Explored variables across users, sessions, flights, and hotels.
- Calculated key engagement metrics (session time, clicks, bookings).
- Identified missing and null values for cleanup.





B. Data Preprocessing

- Created derived fields:
 - Booking Type Label (Flight Only, Hotel Only, Both)
 - Total Trip Cost, Session Duration, Any Booking
 - Age, Age Group, and Total Discount Used
- Filtered out incomplete dates and nulls for accurate trends.

C. Segmentation & Analysis

- Created meaningful customer segments using booking types, demographics, and engagement.
- Measured booking rates, average revenue, discount usage, and session behavior.
- Identified behavioral profiles more likely to respond to specific perks.

D. Presentation of Results

- Built an interactive Tableau story comprising four dashboards:
 1.  KPI Overview – Key metrics like booking rate, session time, revenue
 2.  Booking Patterns – Revenue & discount analysis by booking type
 3.  User Demographics – Booking behavior by age, gender, marital status, and children
 4.  Travel Trends – Destination trends & monthly seasonality
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3. Key Findings

Booking Behavior

- Most users book both flights and hotels, and this group also generates the highest average trip revenue.
- Discount usage is highest among those booking both services, revealing opportunity for cross-selling perks.

Demographic Segmentation

- Unmarried users and those aged 35–44 had the highest booking conversion rates.
- Users without children booked more frequently, while married users booked longer trips.

Engagement Indicators

- Users with higher session durations and more page clicks were more likely to complete a booking.
- High engagement strongly correlates with higher trip spend.

Destination Insights

- Top booked cities were New York, Los Angeles, and Toronto.

- Booking peaks occurred in July and February, aligning with summer travel and winter holidays.
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4. Recommendations

Rewards Strategy:

- Promote free cancellation and loyalty points to unmarried and younger users.
- Offer hotel discounts or bundle deals to high-spend, highly engaged users.
- Target segments based on peak travel months (February and July) with limited-time promotions.

Marketing Campaign Ideas:

- Geo-targeted emails for top cities (NY, LA, Toronto).
- Highlight high-value perks in signup emails, based on user segment (e.g., free cancellation vs. extra luggage).
- Use booking patterns to launch “Return to Your Favorite Destination” campaigns.

Data Next Steps:

- Integrate campaign performance tracking for A/B testing.
 - Explore clustering models to automate behavioral segment updates over time.
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