EastWestAirlines Customer Segmentation Report

Generated by Data Analysis

October 08, 2025

1 Introduction

This report presents the results of K-means clustering applied to the EastWestAirlines frequent flier program dataset to identify customer segments. The analysis aims to support targeted mileage offer strategies based on passenger characteristics.

2 Cluster Analysis Results

The dataset was clustered into 5 segments using K-means clustering. Below is the table of mean values for each feature across the clusters:

Cluster	Balance	$Qual_miles$	$cc1_miles$	$cc2_miles$	$cc3_miles$	$Bonus_miles$	$Bonus_trans$	$Flight_m$
0	58124.78	193.43	1.70	1.02	1.00	10816.56	10.76	
1	139193.01	145.38	4.20	1.00	1.06	51174.63	20.10	
2	59918.33	70.80	1.50	1.02	1.00	6402.41	8.60	
3	34546.73	93.01	1.25	1.01	1.00	4428.69	6.62	
4	196333.68	773.81	2.25	1.04	1.00	33783.83	28.51	

Table 1: Mean Values of Features by Cluster

3 Summary and Recommendations

3.1 Cluster Profiles

- **Cluster 0 (1186 passengers)**: Loyal Mid-Tier Customers

  - Mean Balance: 58124.78 | 100% Award Usage | Moderate Bonus Miles (10816.56)

  - Insight: Engaged members with decent mileage and full award redemption.

  - Recommendation: Offer bonus mile promotions or award upgrades to boost flight activity.

- **Cluster 1 (841 passengers)**: High-Value Credit Card Users

  - Mean Balance: 139193.01 | High $cc1_miles(4.20)|HighBonusMiles(51174.63)|63\%AwardUsa$ $Premium customers leveraging credit cards for significant miles.$

- Recommendation: Promote premium credit card perks or higher-tier status with spending incentives.

  - **Cluster 2 (989 passengers)**: Inactive Long-Term Members

    - Mean Balance: 59918.33 | 0% Award Usage | Low Flight Activity (177.68)
    - Insight: Long-term members (5632.93 days) with no recent engagement.
    - Recommendation: Launch re-engagement campaigns with discounted flights or bonus miles.

  - **Cluster 3 (839 passengers)**: New or Low-Activity Members

    - Mean Balance: 34546.73 | 0% Award Usage | Low Activity Across Metrics
    - Insight: Newer members (2101.26 days) with minimal participation.
    - Recommendation: Provide introductory offers like discounted flights to build loyalty.

  - **Cluster 4 (144 passengers)**: Frequent Flyers

    - Mean Balance: 196333.68 | High Flight Miles (5719.97) | 81% Award Usage
    - Insight: Small but valuable segment of top customers with high activity.
    - Recommendation: Offer elite status upgrades or exclusive rewards to retain them.

3.2 Overall Recommendation

EastWestAirlines should implement a tiered marketing strategy:

- Focus retention efforts on Clusters 0 and 4 with loyalty enhancements.

- Target Clusters 1 and 2 with credit card promotions and re-engagement offers.

- Invest in onboarding support for Cluster 3 to convert them into active members.