

Uncovering Two Years of Airline Customer Behaviors

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Presentation Outline



- Problem Description
- Solution Map
- Exploratory Analysis
- Cluster Analysis
- Recommendations



Problem Description

Situation

Going through bankruptcies, multiple economic recessions, and threats of mergers, the Airlines were now stable and profitable. Its Director embarked on **developing more robust customer insights as a top priority**

Complication

The company **did not have a dedicated data analyst on staff** and lack of customer knowledge, which significantly hampers the team's digital marketing and advertising efforts

Key Questions



Paint a picture of different customer segmentations



**Which ways offer the Airlines the most insights?
How could the insights be used?**

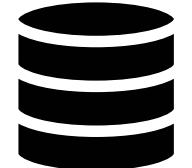


Solution Map

The path toward solving problems

BAGGAGE
TAG

Data Preparation

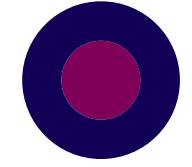


Customer



Booking

Total: 3M



Data Pre-processing

- Primary Key
- Missing values and outliers
- Calculate frequency
- Calculate recency
- Monetary per flight

BAGGAGE
TAG

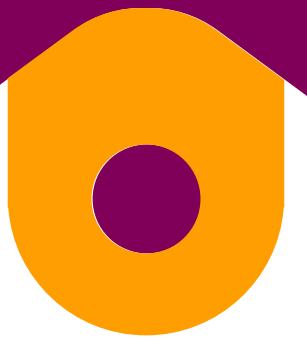
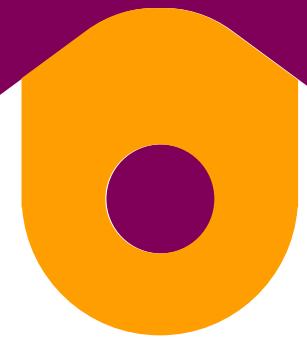
Clustering Analysis



RFM model



3 clusters



Key Insights

- Loyal customer group has the most elite and standard membership
- JFK is the most popular route for loyal customer



Exploratory Analysis

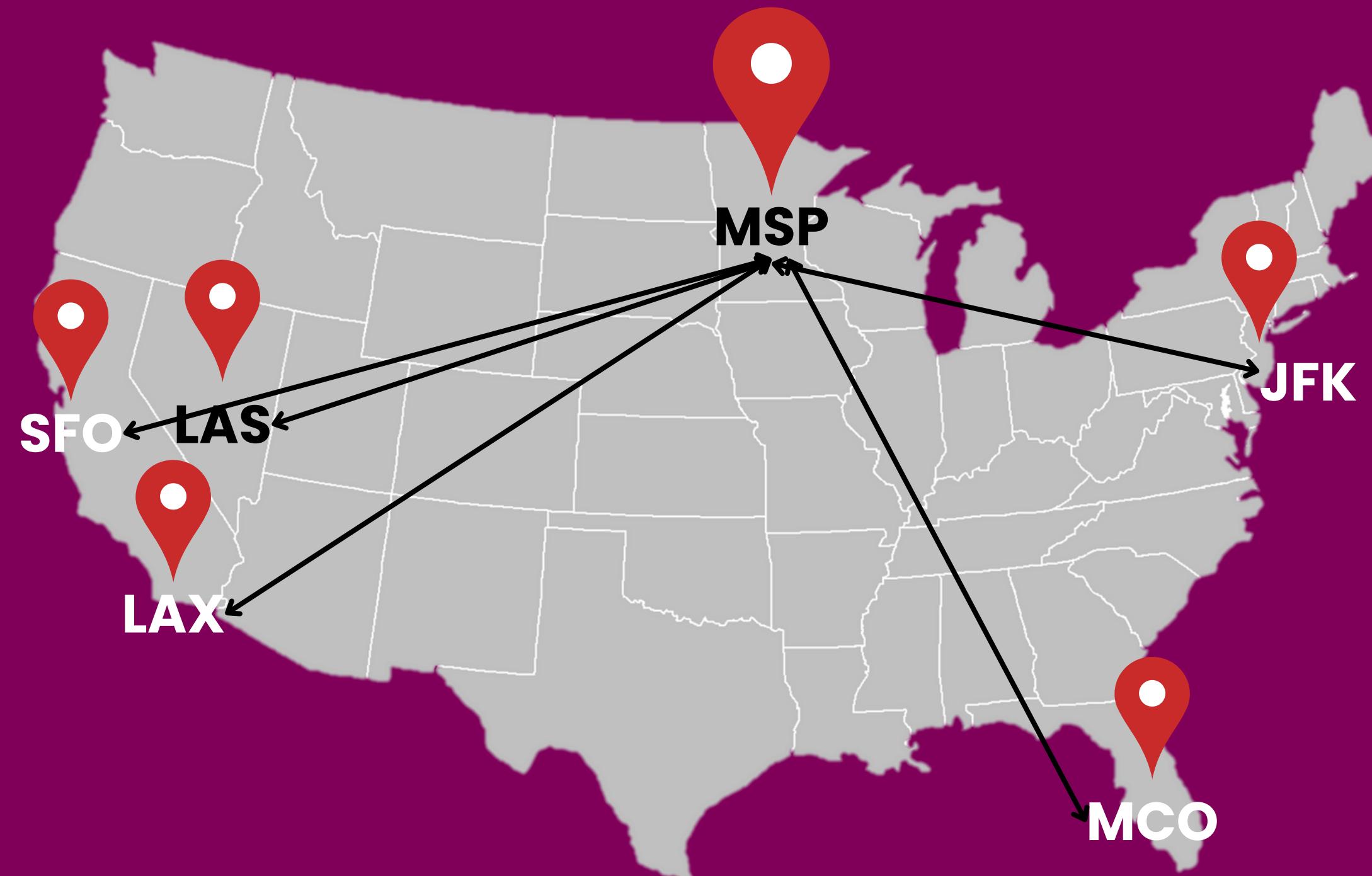
What's the overall data look like?

1. Popular flight routes
2. Customers characteristic
3. Ufly memberships and its changes



Popular flight routes

53% of routes are to and from MSP

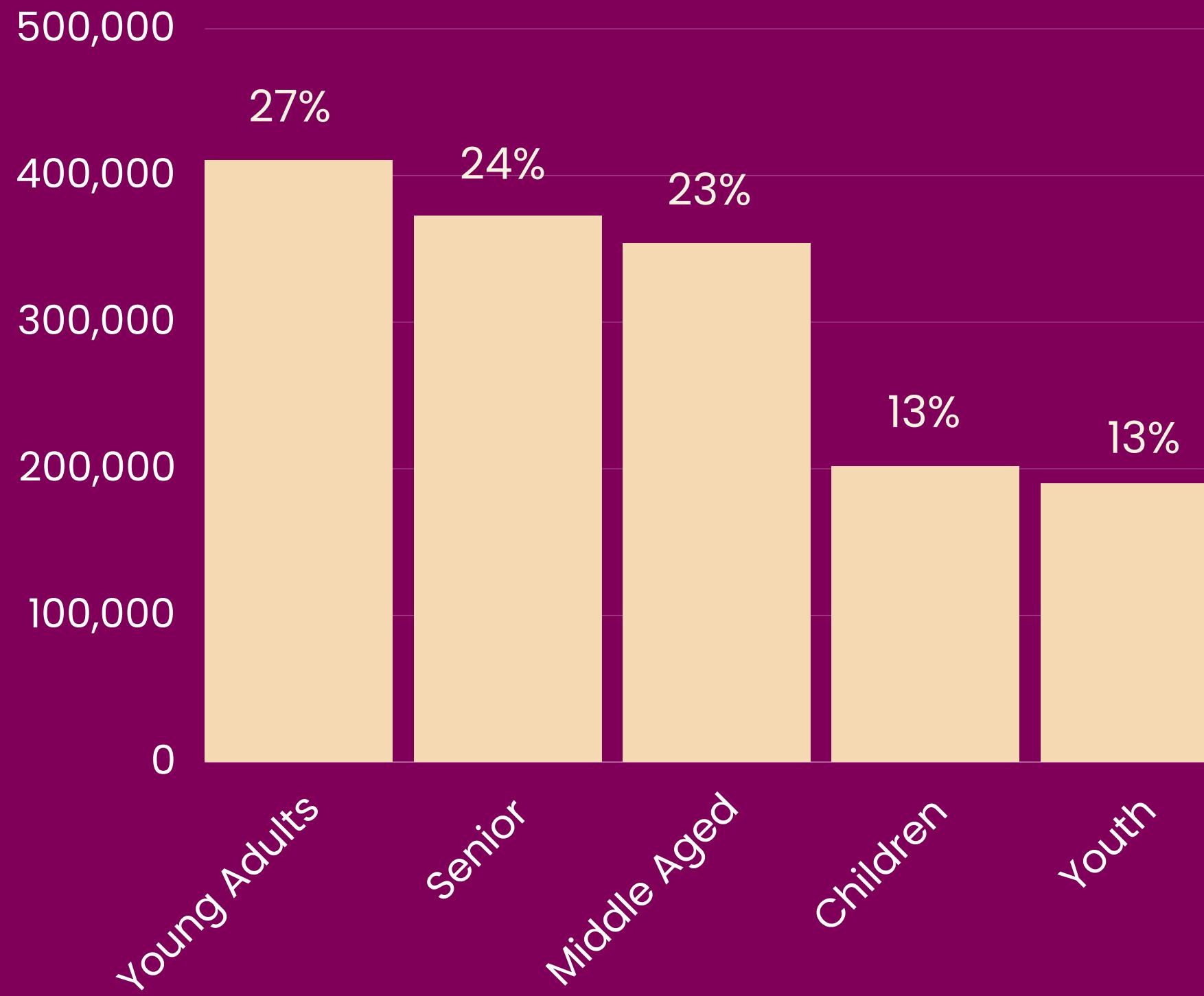


Round trip routes of top 5 airports

- Routes are not to and from MSP but popular: **DFW ↳ CUN** (#29 of 238 routes)
- **74%** customers bought round trip tickets
- Average **1.25** round trips per person

Customers characteristic

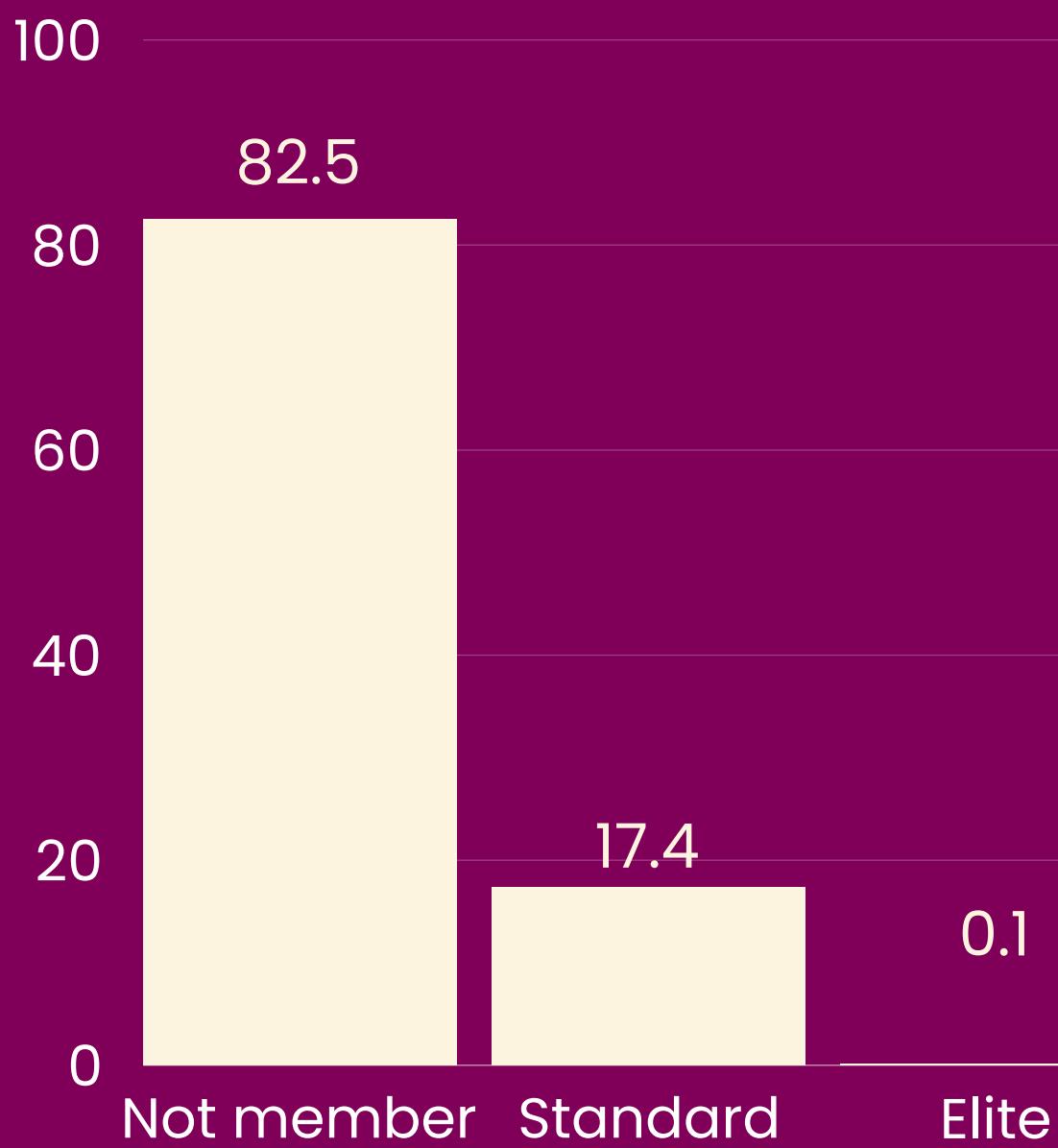
Young adults group accounts for 26.9%



- Female customers are 9% more than male
- Only **0.7%** of customers are **card holder**

Ufly memberships and its changes

Not member accounts for 82.5%, but having chance change to standard membership



2 years membership special changes:

Not Member → Standard **644**

Not Member → Elite **3**



Clustering Analysis

Using RFM model to identify 3 segmentations

	Recency (days)	Frequency	Monetary
Loyal customers (539K)	3449	2.36	\$296
High-spending travelers (429K)	3956	1.86	\$328
Budget travelers (558K)	3694	2.13	\$276



Further analysis of loyal customers

Identify what characteristic made up for loyal customers and how it differs from other groups

	Ufly membership	Card holders	#Discounts	Top3 service city	Top3 Booking channel
Loyal customers	Standard 42%	Elite 62%	56%	1.2	JFK SFO LAX Outside Airlines website Tour Operator Portal
High-spending travelers	23%	25%	15%	0.38	LAS MCO LAX Outside Airlines website Reservations
Budget travelers	35%	13%	29%	0.53	LAS MCO LAX Outside Airlines website Tour Operator Portal

Recommendations Overview

Precision marketing

- 1 Tailor vacation packages for each segmentations
- 2 Providing card holders specific discount or upgrade
- 3 membership reward program can increase the customer's total number of trips and help members upgrade

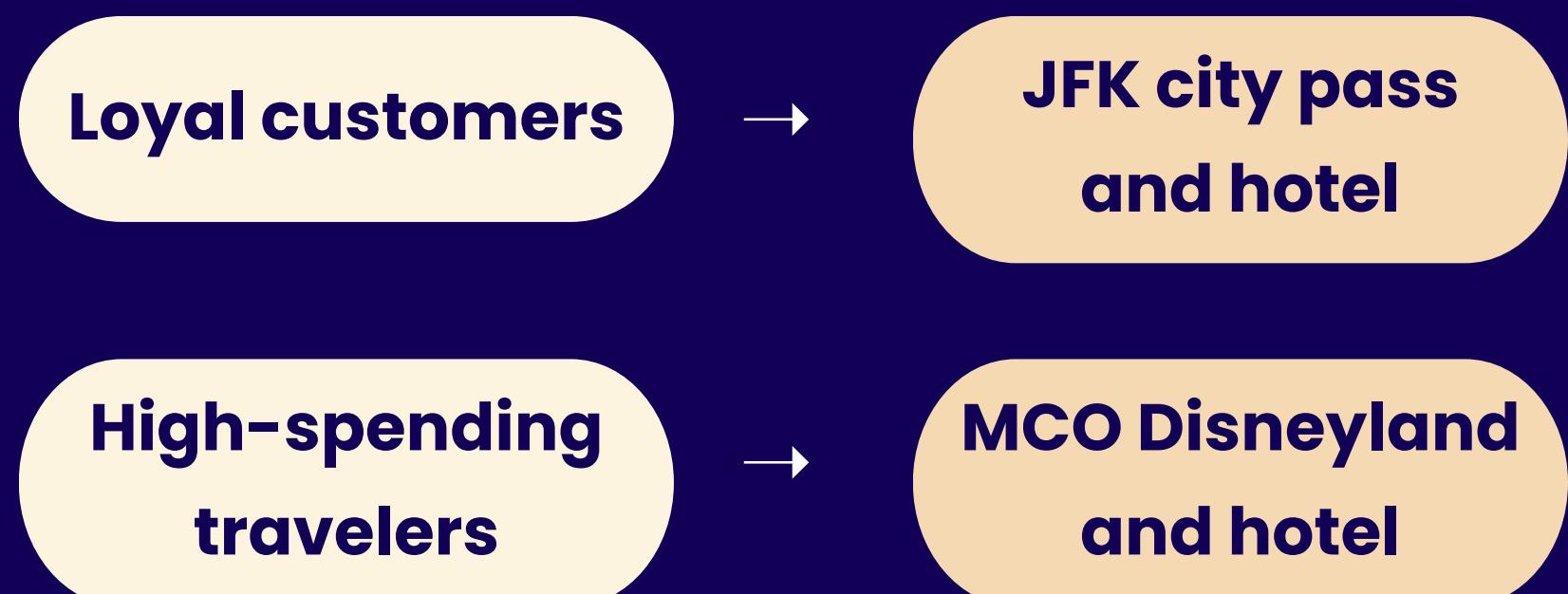
Upgraded membership



Recommendations

Precision marketing for each segmentations

- Tailor vacation packages in line with different clusters



Recommendations

Precision marketing for each segmentations

- **Providing card holders specific discount or upgrade**

Discount

→ Providing loyal customer who are card holders points reward discount

Upgrade

→ **Points reward membership plan** provide upgraded chance to increase customers' loyalty



Recommendations

Helping increase membership from not member to standard

- **Membership rewards program can increase customers total trips and help upgrade membership**

Not memebr



Standard

It has chance to become standard membership when more than 4 trips



THANK YOU!

Open to ask any questions!