

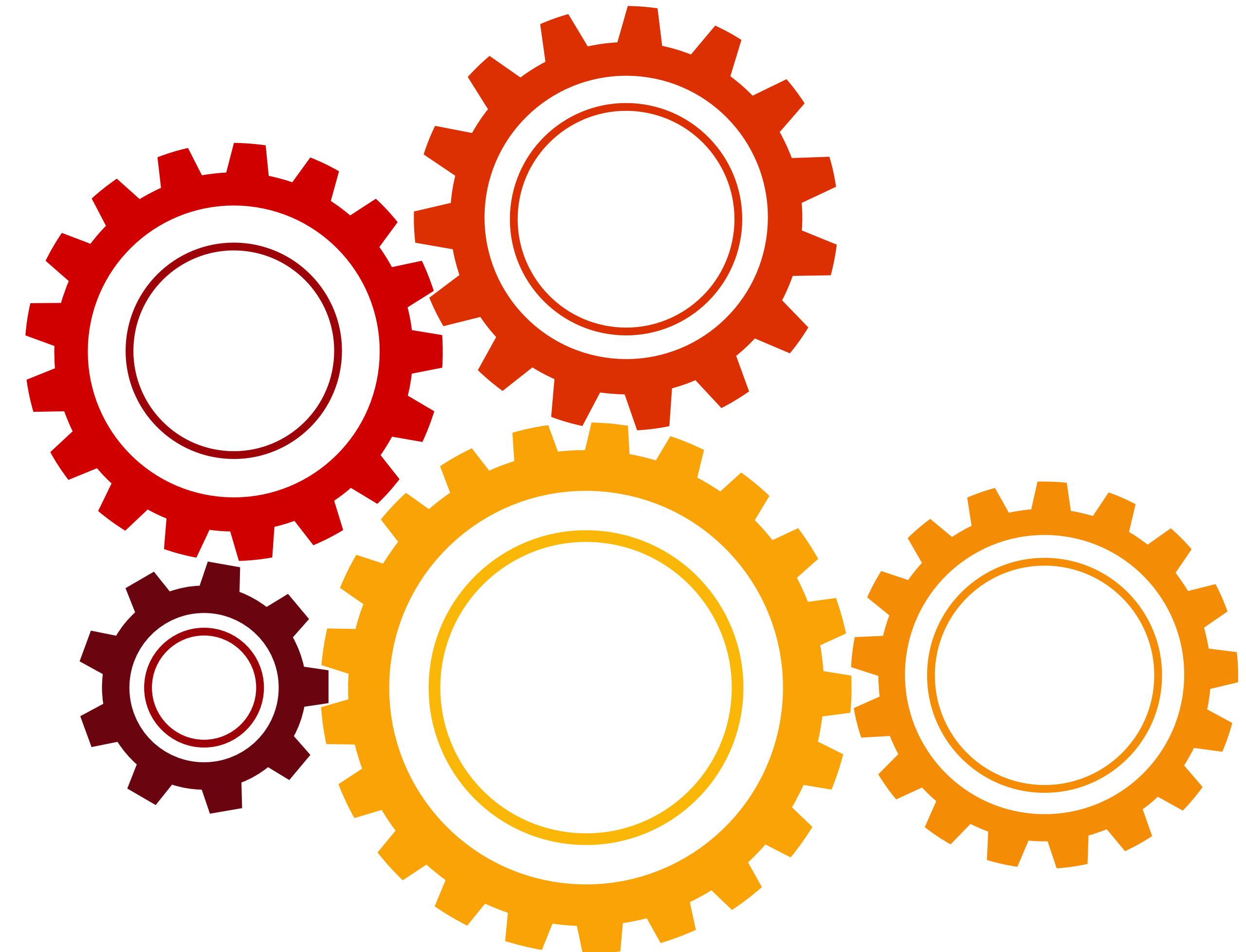
# **PSN Customer Segmentation**

## About PSN

Powersports Nation is the largest premier remanufacturing/salvage UTV/ATV parts seller in the US.

# Background

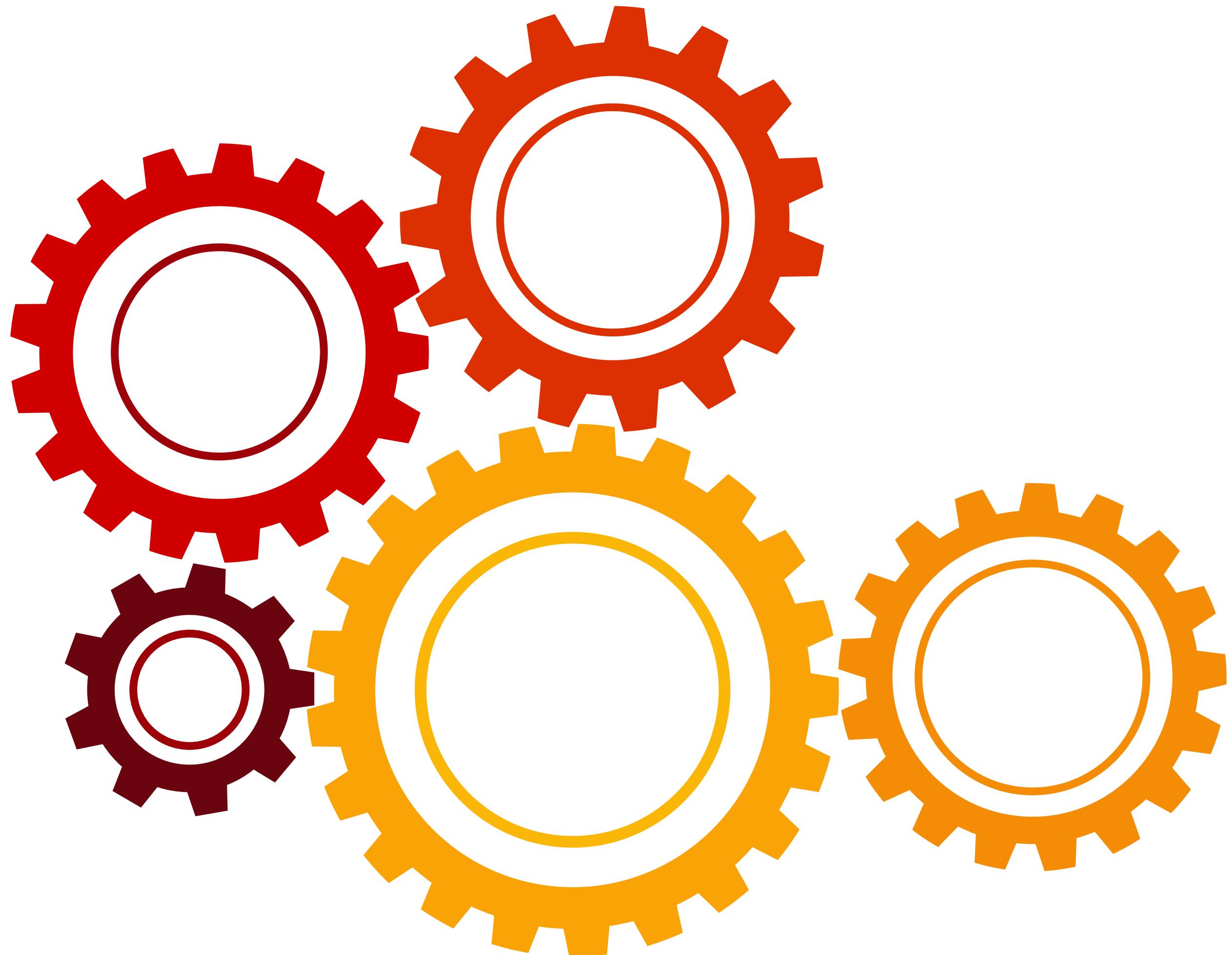
- **Substantial growth** - going from 2 employees out of garage to 80+ employees working out full onsite facilities for warehousing, engine rebuilding, tear down, shipping and machine shop
- **Process 40+ salvage units a week** - complete tear-down, picture, price, warehouse and list
- **Rebuild 40+ engines a week**
- **\$14M in revenue a year**
- **On-line business** primarily selling on **eBay** and **PSN website**
- **eBay Top Seller Status**



# Agenda

## PSN Customer Segmentation

- Objectives
- Approach
  - Data gathering and transformation
  - Customer Segmentation
    - RFM Statistical
    - Machine Learning
- Initial Insights
- Going Forward
- Questions



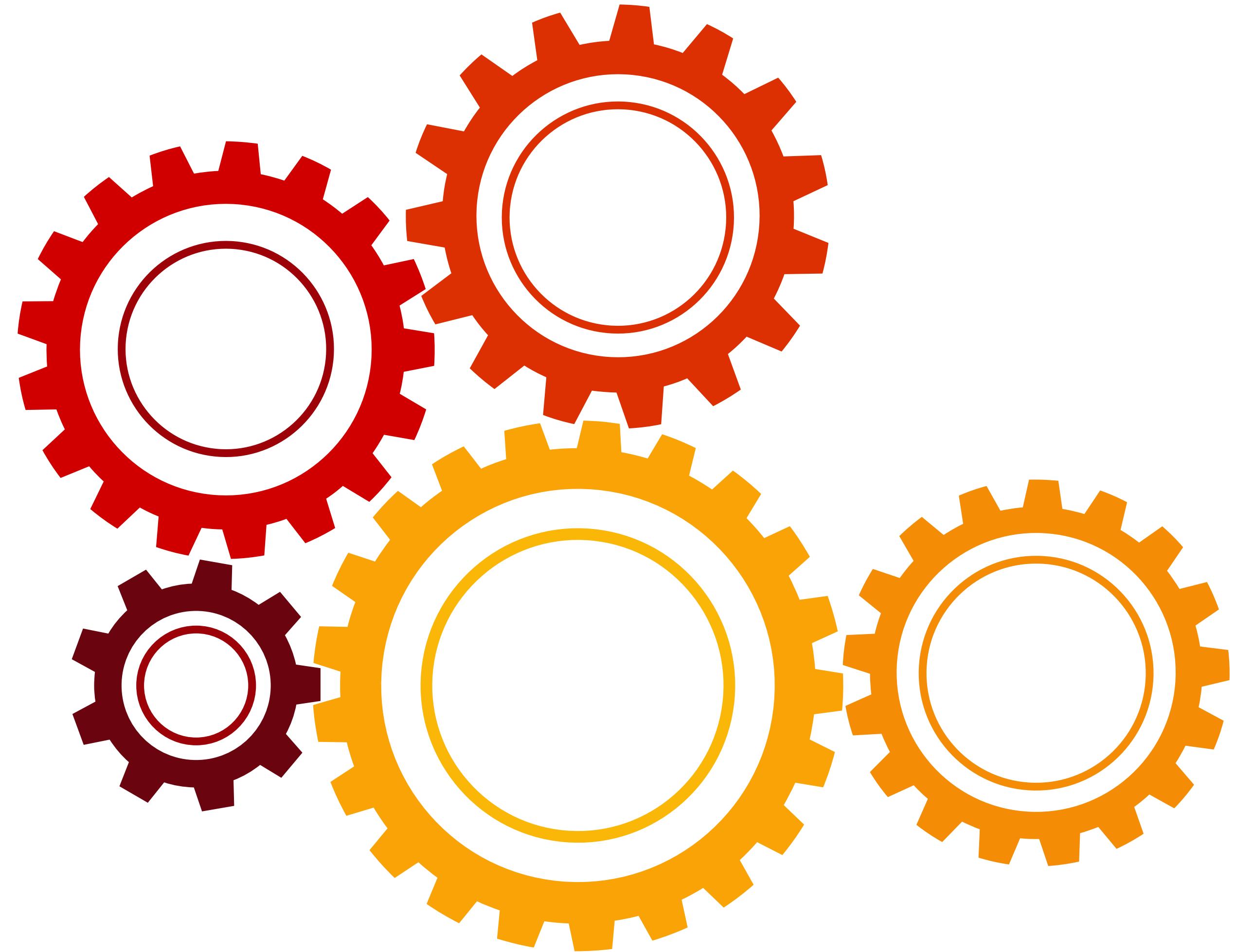
# 140,000+ Unique Customers but how to market to?



## Objectives

# Customer Segmentation

- Identify classifications of customers across the various markets
- Identify loyal customers for the initial phases of a customer loyalty program
- Acquire background data to begin development customer personas and areas for growth
- Acquire background data to begin development of yearly marketing plan.

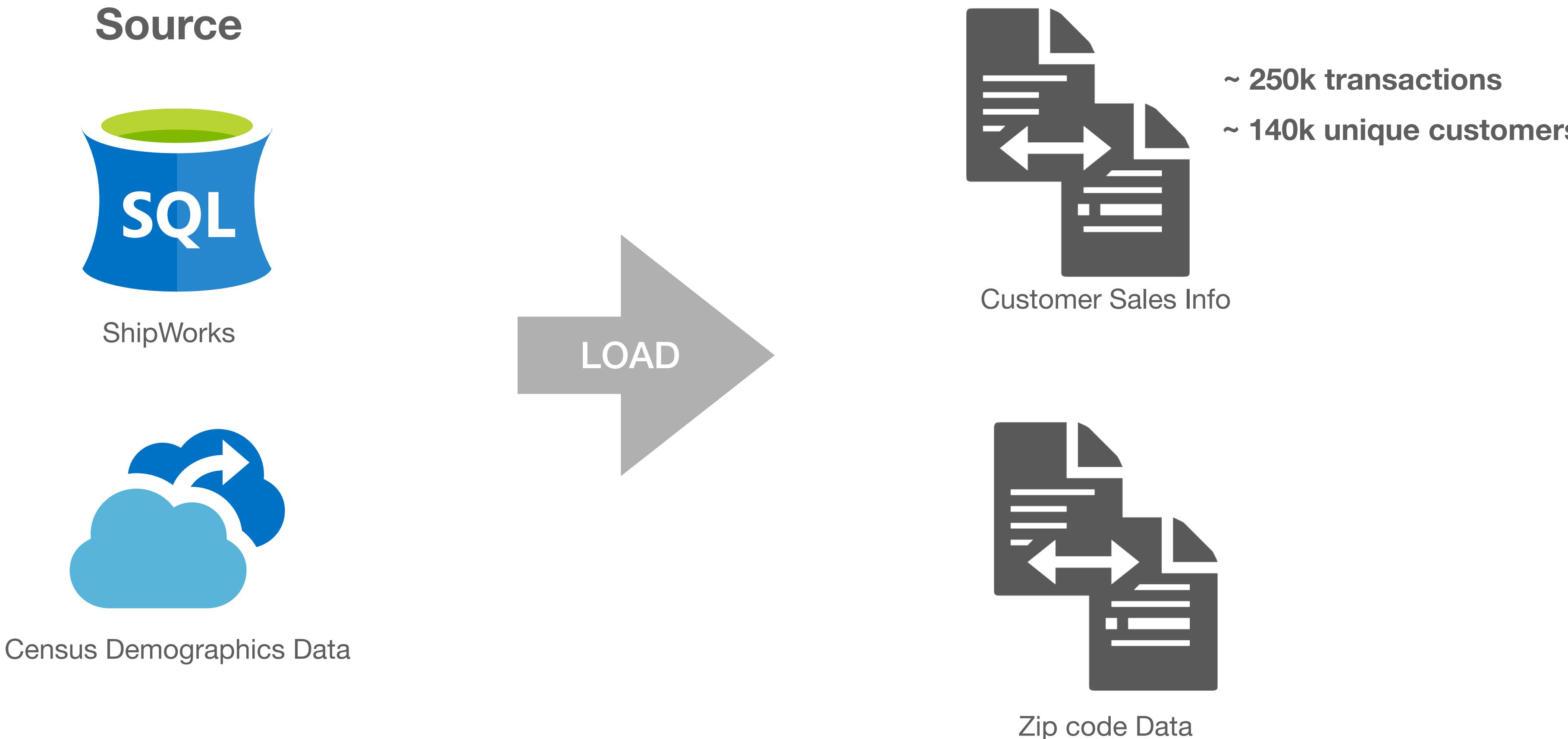


# Approach

Data Gathering  
Transformation

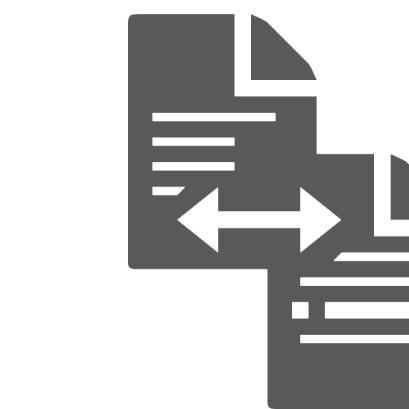
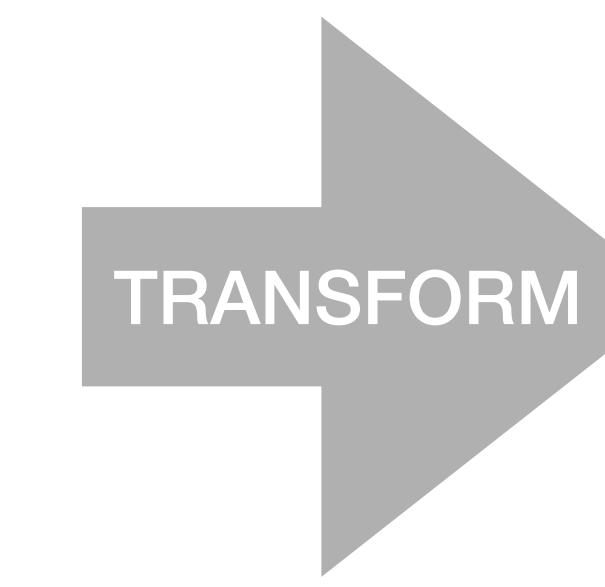
## Data Gathering and Transformation

# 1 Extract

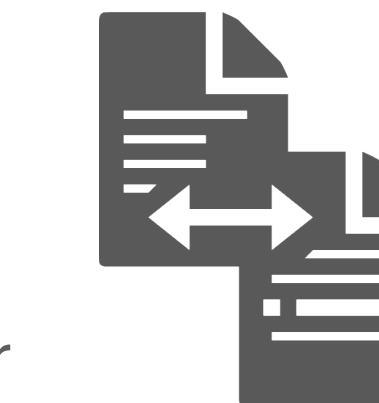


## Data Gathering and Transformation

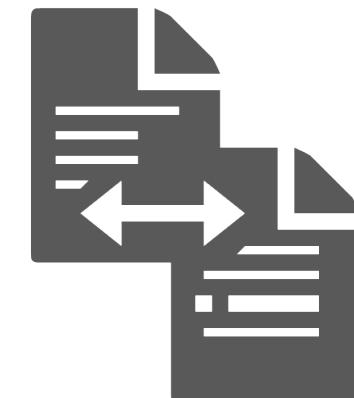
# 2 Transform



Customer Master



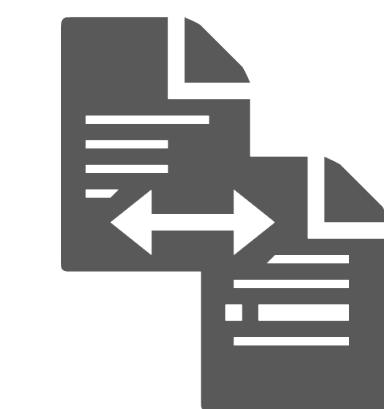
Customer LOB Pivot



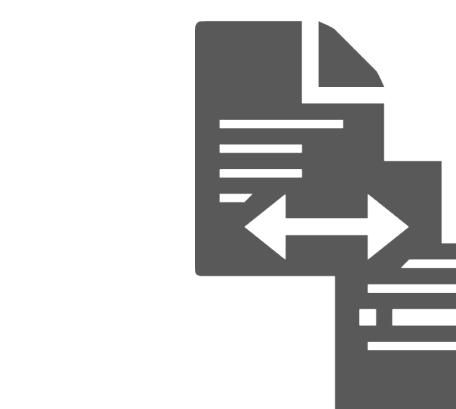
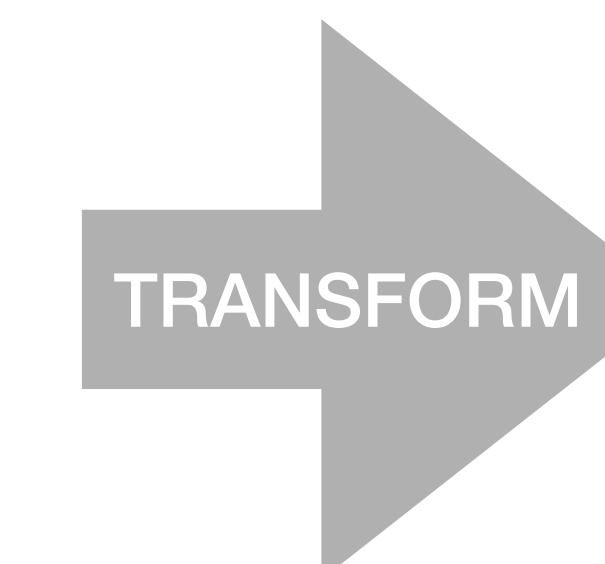
Customer RFM



Customer Brand Pivot



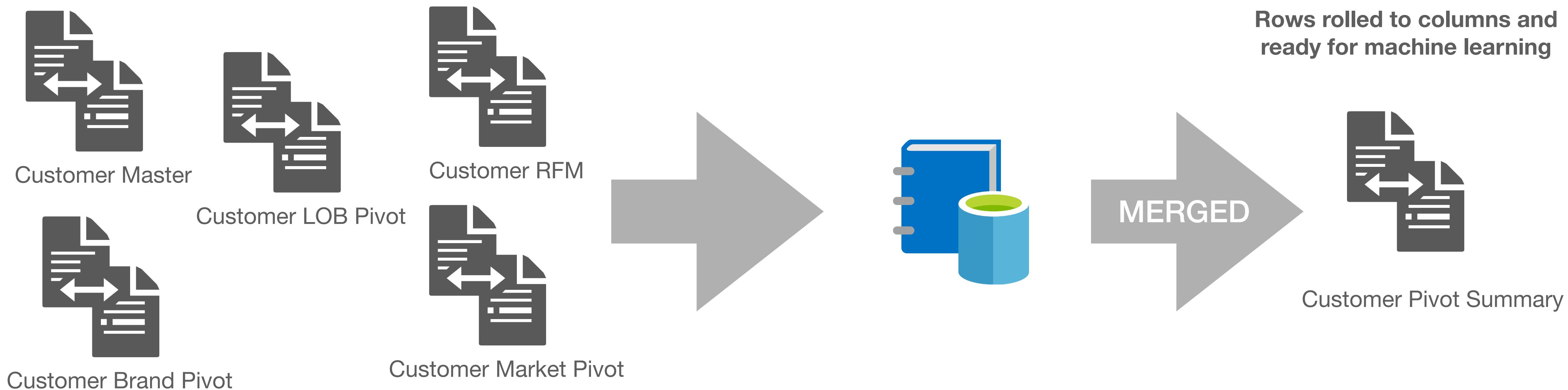
Customer Market Pivot



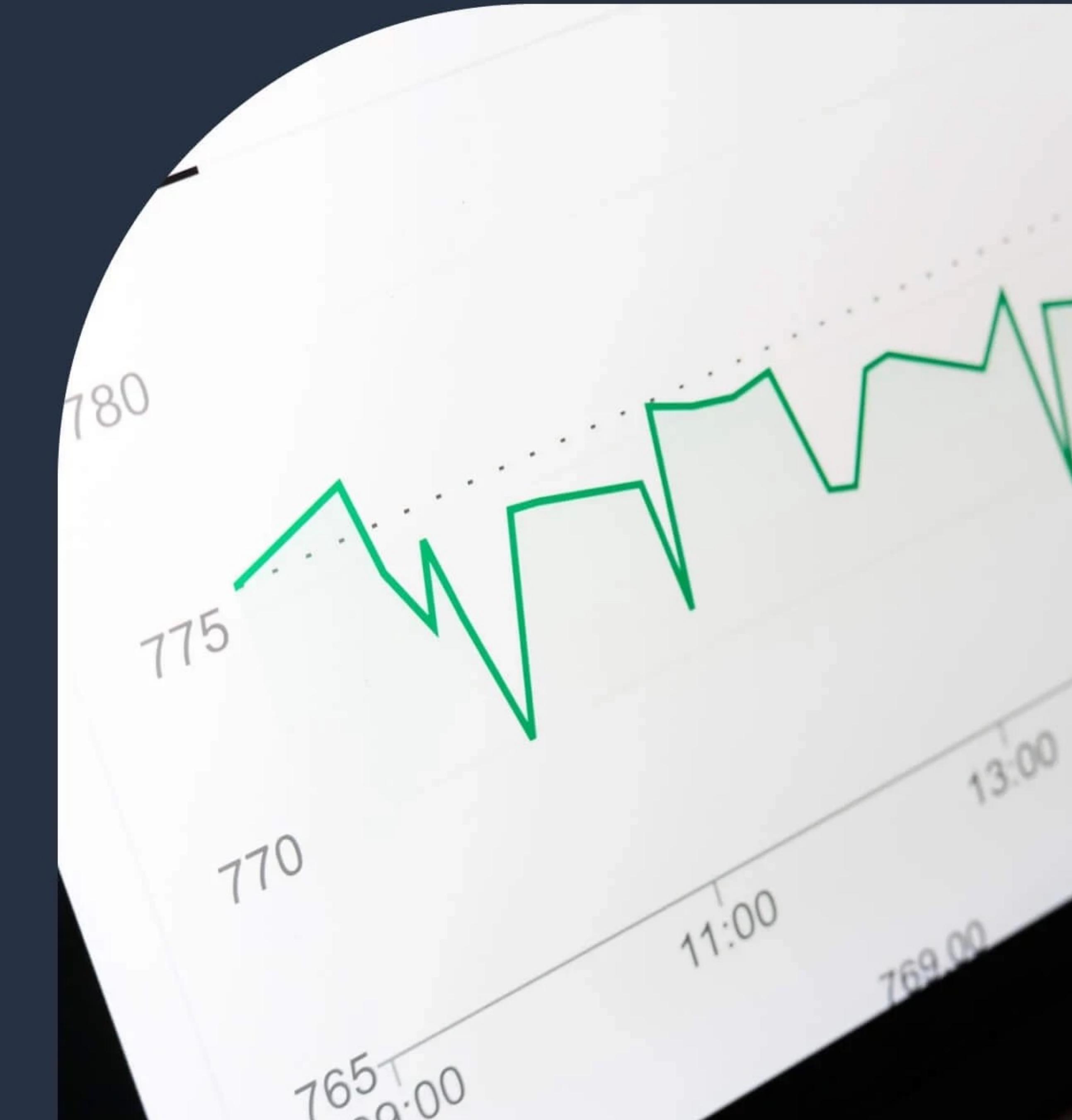
Zip code Demographics

## Data Gathering and Transformation

# 3 Load



# RFM Analysis for Customer Segmentation



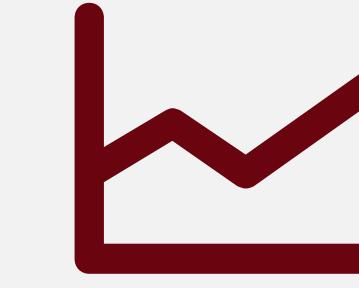
# Customer Segmentation - RFM Statistical Approach

## RFM Data



### RECENCY Days

How recent has the customer done business.



### FREQUENCY Number

How many times of the course of a time period has the customer .

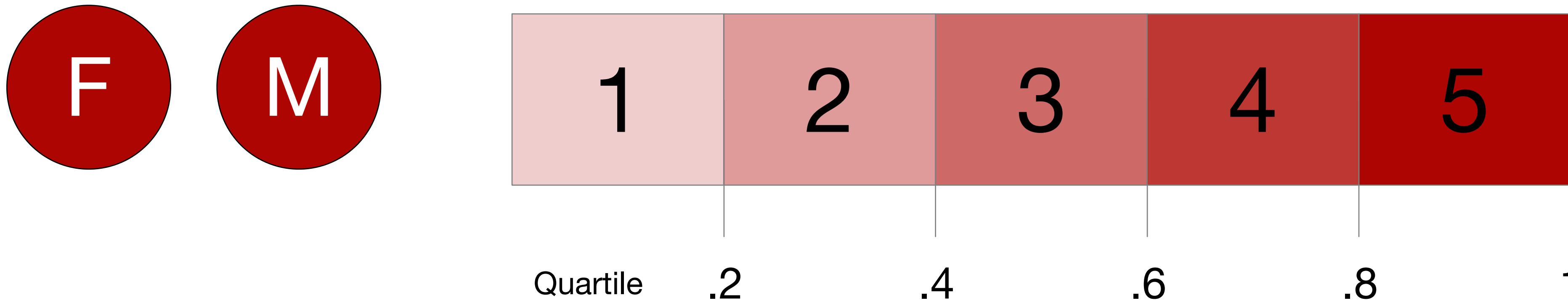
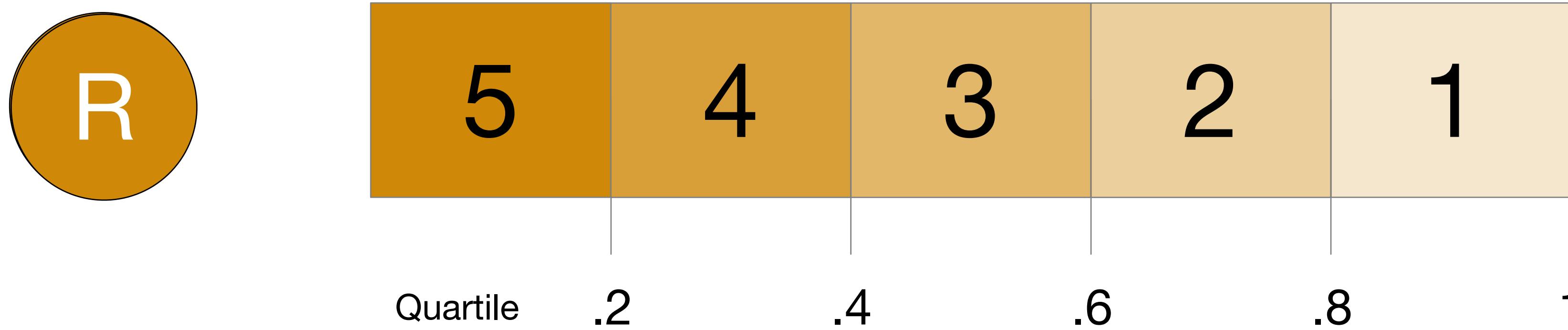


### MONETARY Total

The intention of the customer to spend. The sum of the total spend for the customer.

## Customer Segmentation - RFM Statistical Approach

# RFM Data Ranking



# Customer Segmentation - RFM Statistical Approach

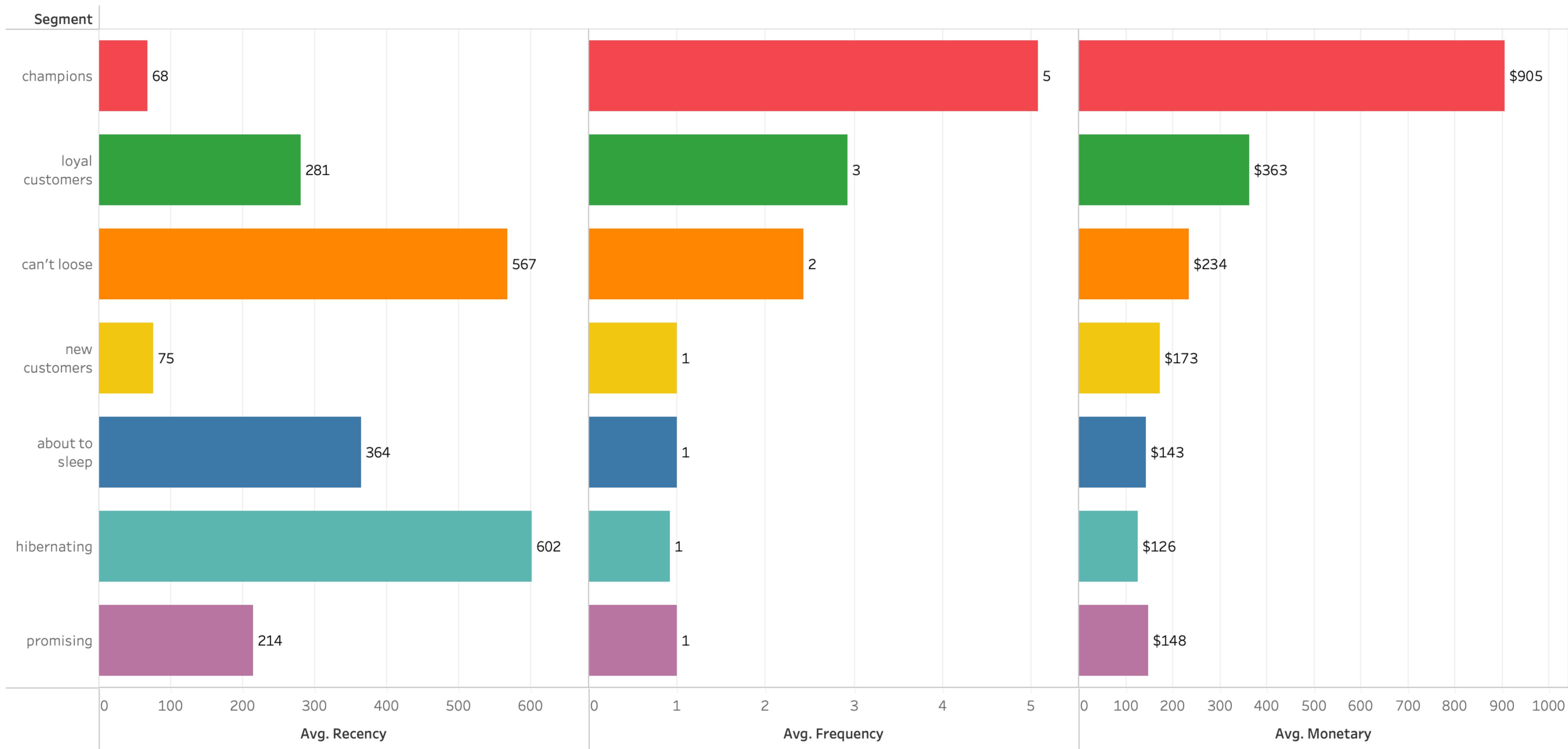
# RFM Rank Mapping

	CustomerID	Recency	Frequency	Monetary	R	F	M	RFM Score
0	10012	636	3	121.98	1	5	4	154
1	24012	50	11	1152.57	5	5	5	555
2	36012	48	7	268.83	5	5	5	555
3	48012	15	42	7014.86	5	5	5	555
4	49012	43	14	2460.47	5	5	5	555

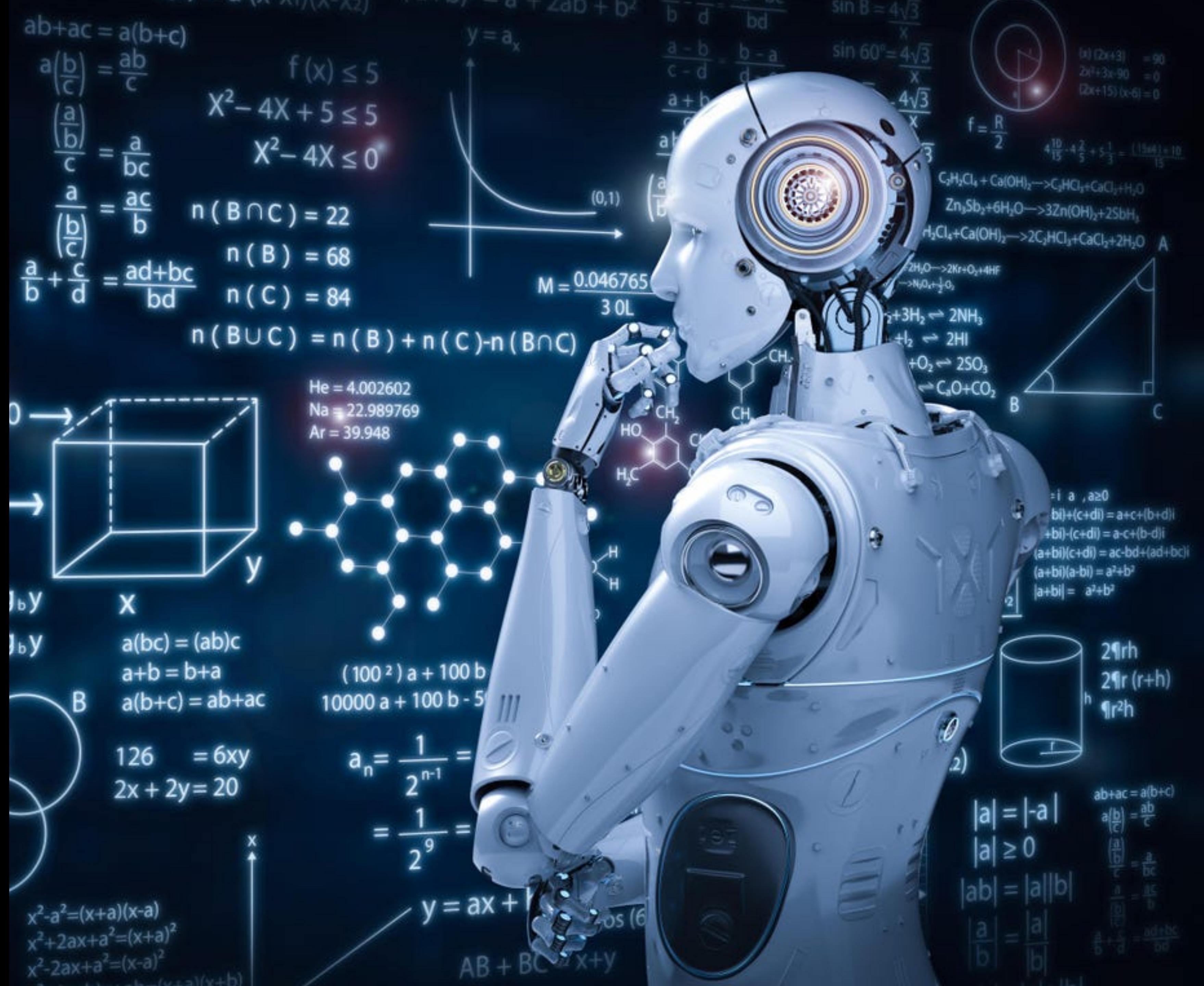
```
segt_map = {  
    r'[1-2][1-2]': 'hibernating',  
    r'[1-2][3-4]': 'at risk',  
    r'[1-2]5': "can't loose",  
    r'3[1-2]': 'about to sleep',  
    r'33': 'need attention',  
    r'[3-4][4-5]': 'loyal customers',  
    r'41': 'promising',  
    r'51': 'new customers',  
    r'[4-5][2-3]': 'potential loyalists',  
    r'5[4-5]': 'champions'}
```

## Customer Segmentation - RFM Statistical Approach

# RFM Segments

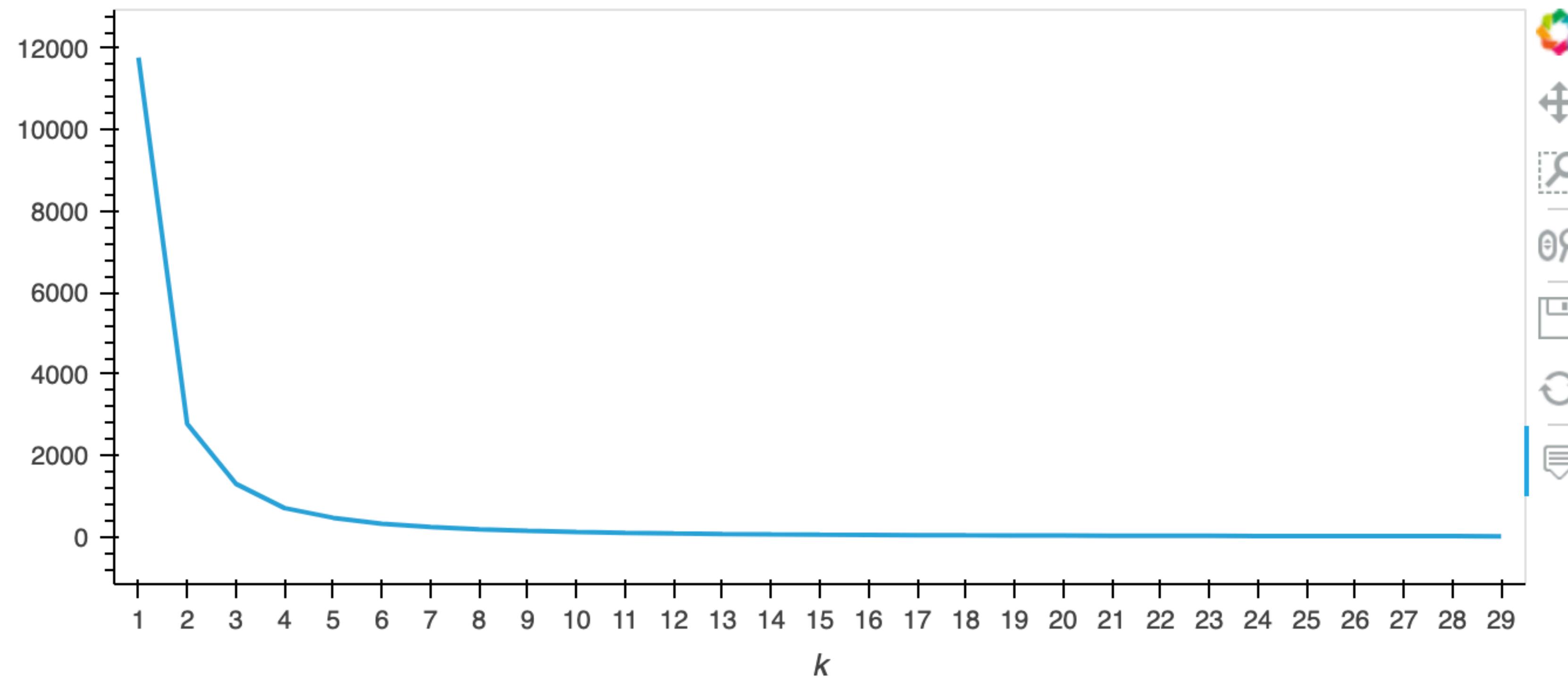


# Machine Learning



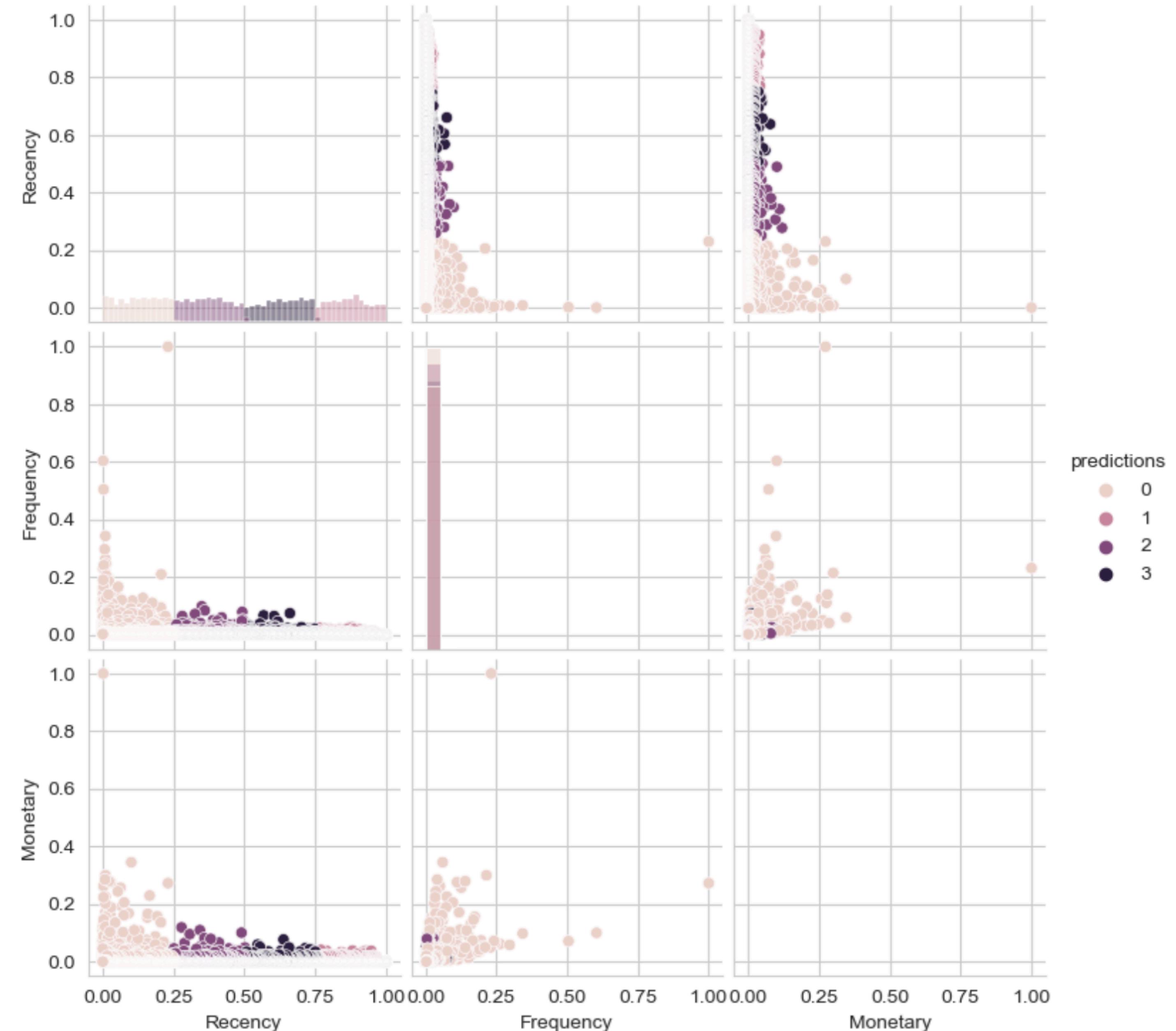
# Customer Segmentation - Machine Learning Approach

## RFM Elbow



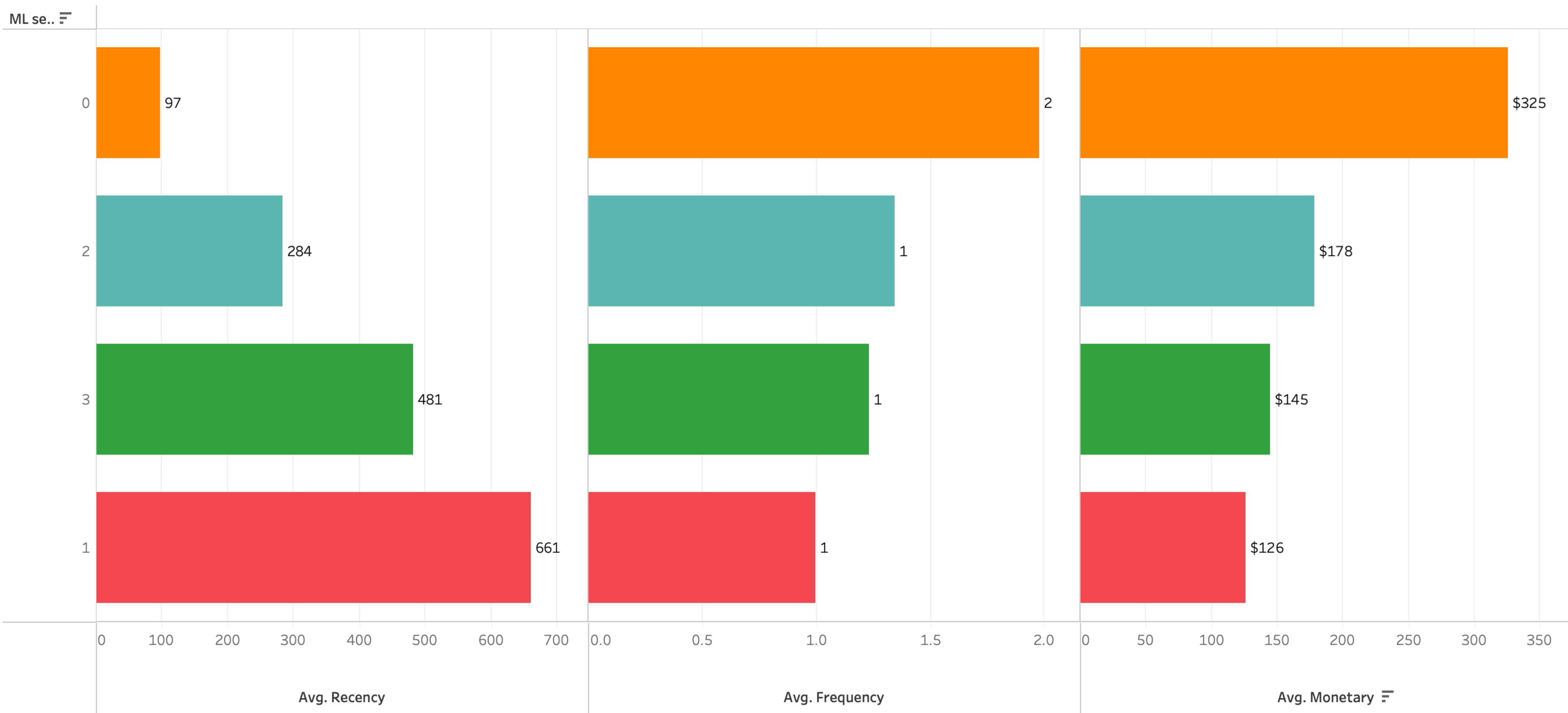
# Customer Segmentation - Machine Learning Approach

## RFM Machine Clusters



# Customer Segmentation - Machine Learning Approach

## RFM Segments



# Initial Insights



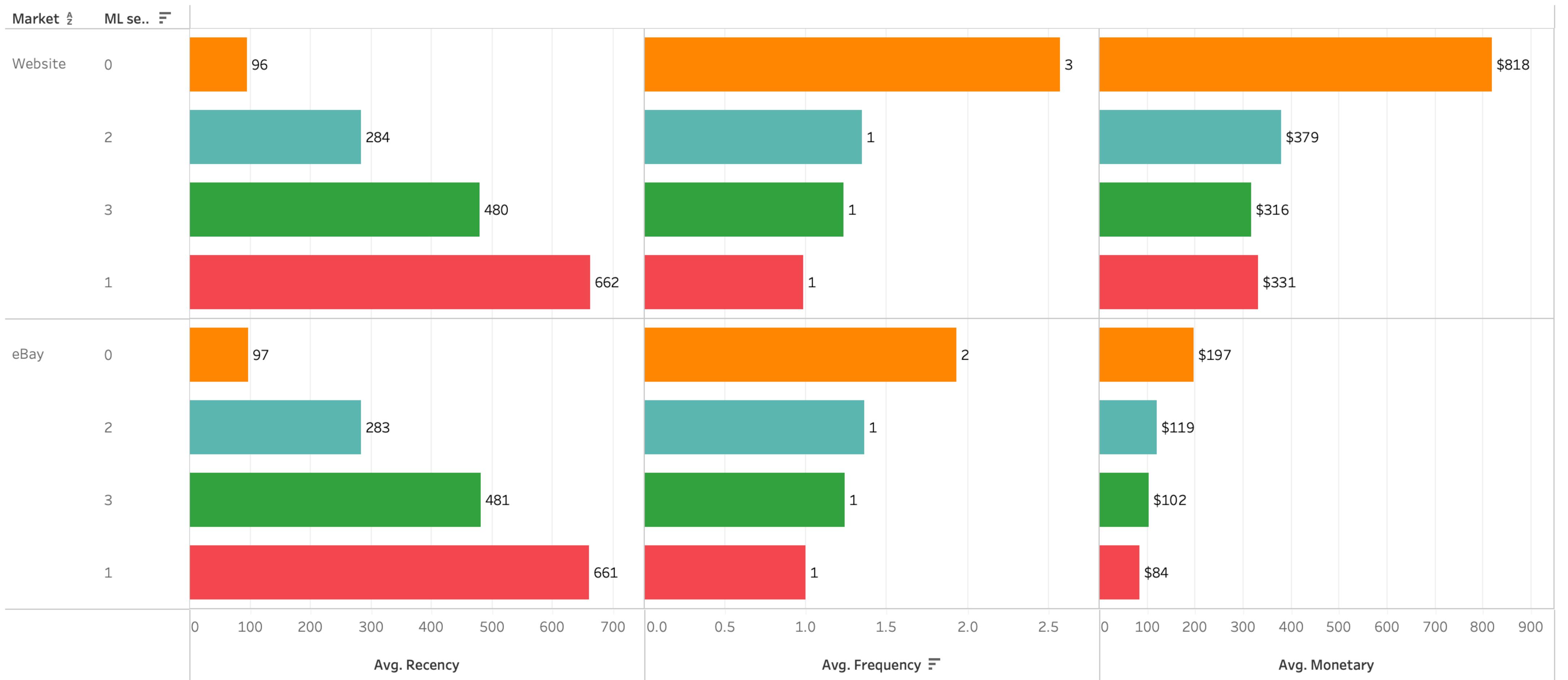
## Initial Insights

Monthly buying patterns differ in fall months between key segments



## Initial Insights

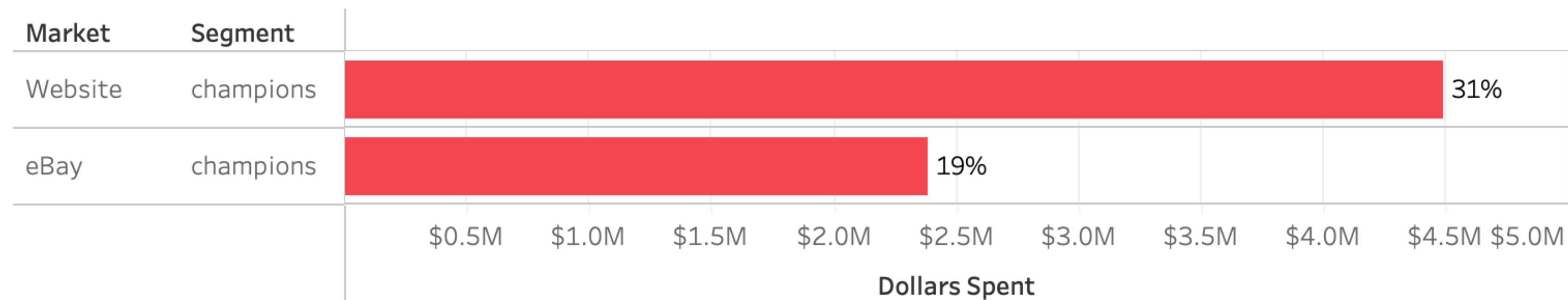
**Customer segment revenue varies significantly between market places**



## Initial Insights

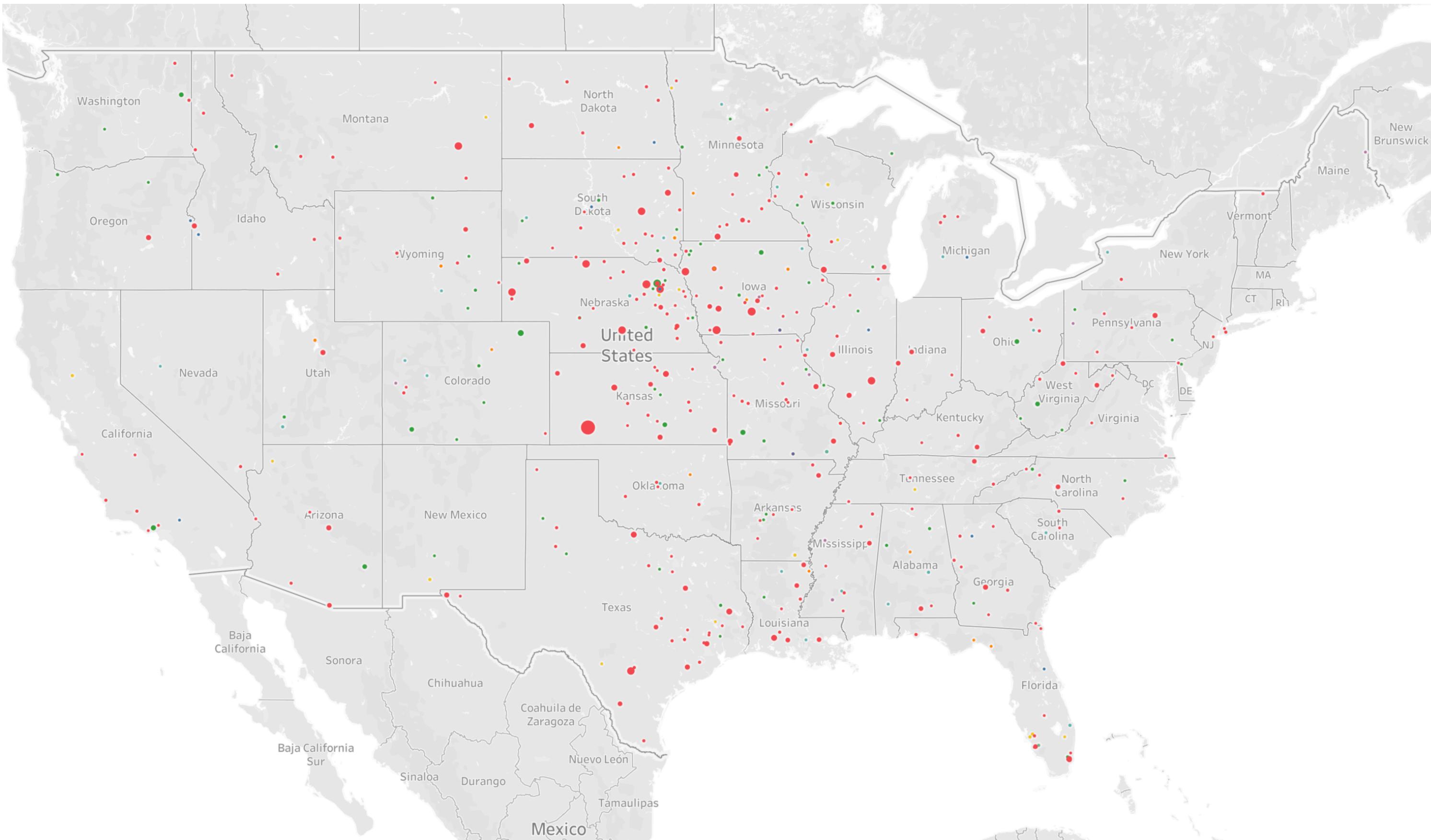
**Website champions spend significantly more than eBay champions**

RFM Segment Dollars by Market



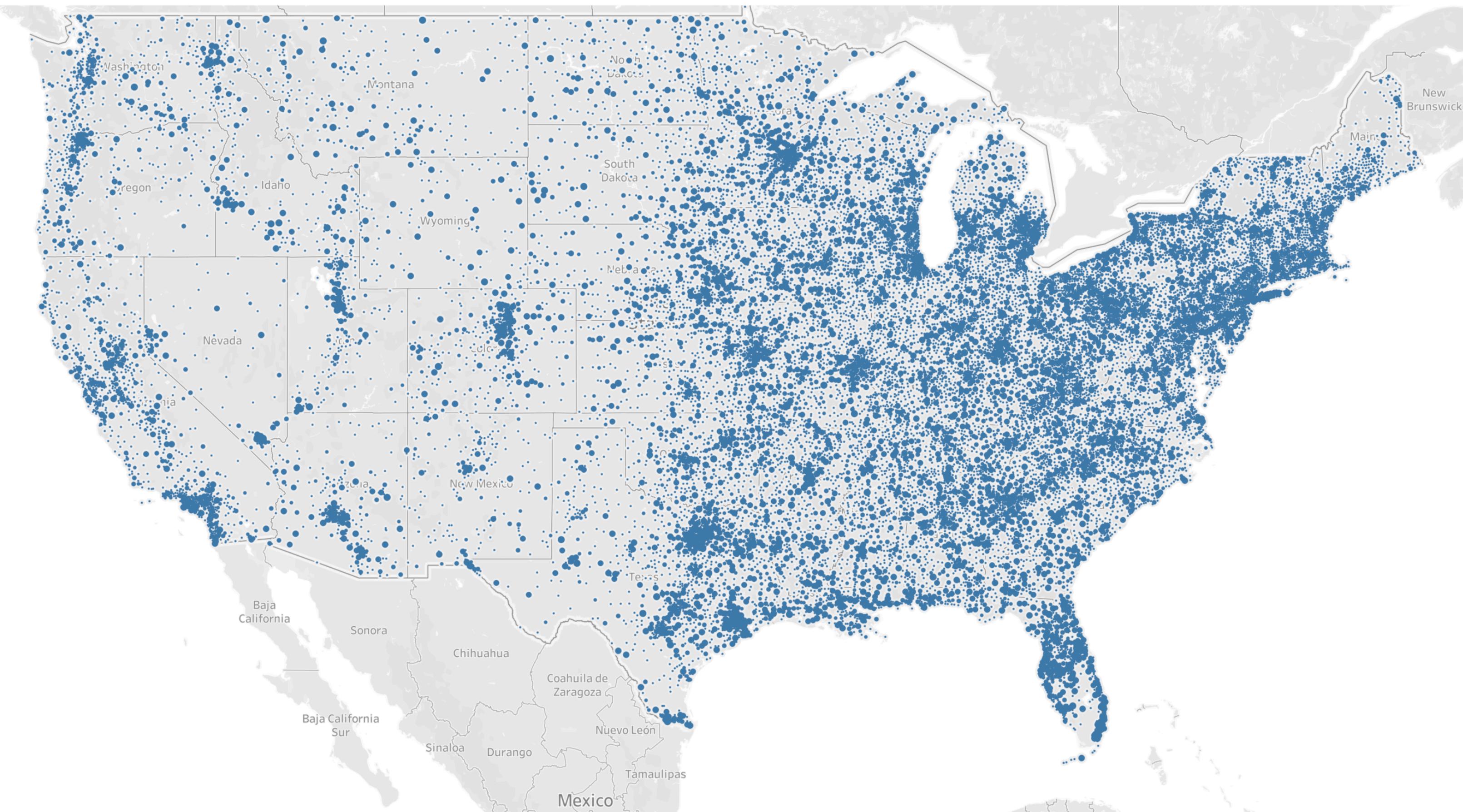
## Initial Insights

# Customer Distribution - spending total more than \$5000



## Initial Insights

# Customer Distribution - spending total less than \$5000





The background features an aerial perspective of a multi-lane highway or bridge spanning a body of water. The scene is characterized by intense motion blur, creating streaks of red, white, and blue light that converge towards the center of the frame. This visual effect is punctuated by several large, white, chevron-shaped arrows pointing rightward, which are superimposed on the streaks. The overall atmosphere is dynamic and forward-moving, symbolizing progress and momentum.

THE PATH FORWARD

003  
74/02455 61.000 174/02455  
74/02455 61.000 174/02455

# Action Steps

- 1** Match back to customers
- 2** Initial persona development
- 3** Develop at-risk plan

# Questions