Customer Segmentation

Business Science

3/19/2019

Problem Statement

Marketing would like to increase email campaign engagement by segmenting the customer-base using their buying habbits.

Solution Summary

The data science team has identified 4 customer segments. The 4 segments were given descriptions based on the customer's top product purchases.
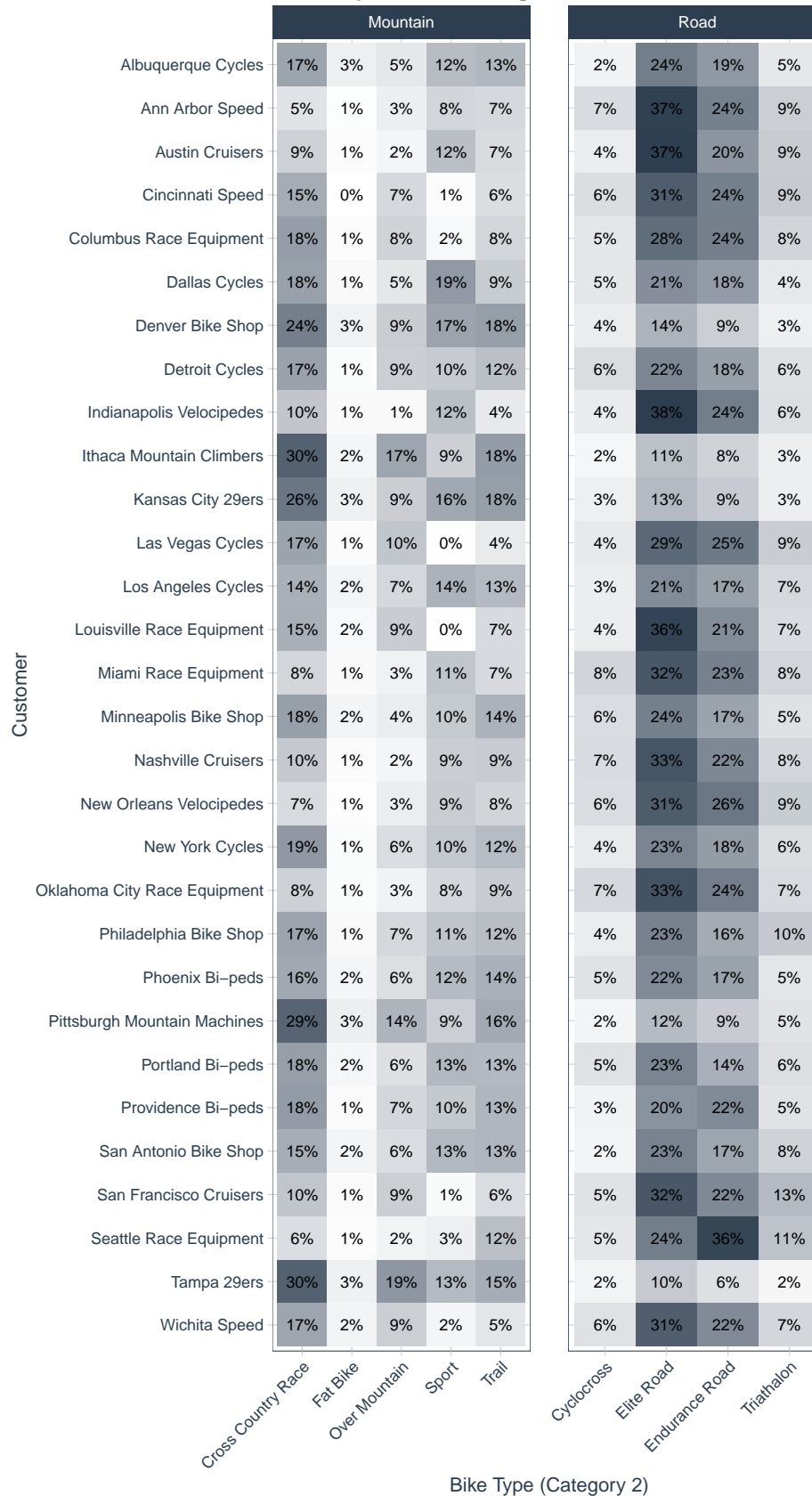
1. **Segment 1 Preferences:** Mountain Bikes, Above $3k

2. **Segment 2 Preferences:** Road Bikes, Above $3k

3. **Segment 3 Preferences:** Road Bikes, Below $3k

4. **Segment 4 Preferences:** Mountain Bikes, Below $3k
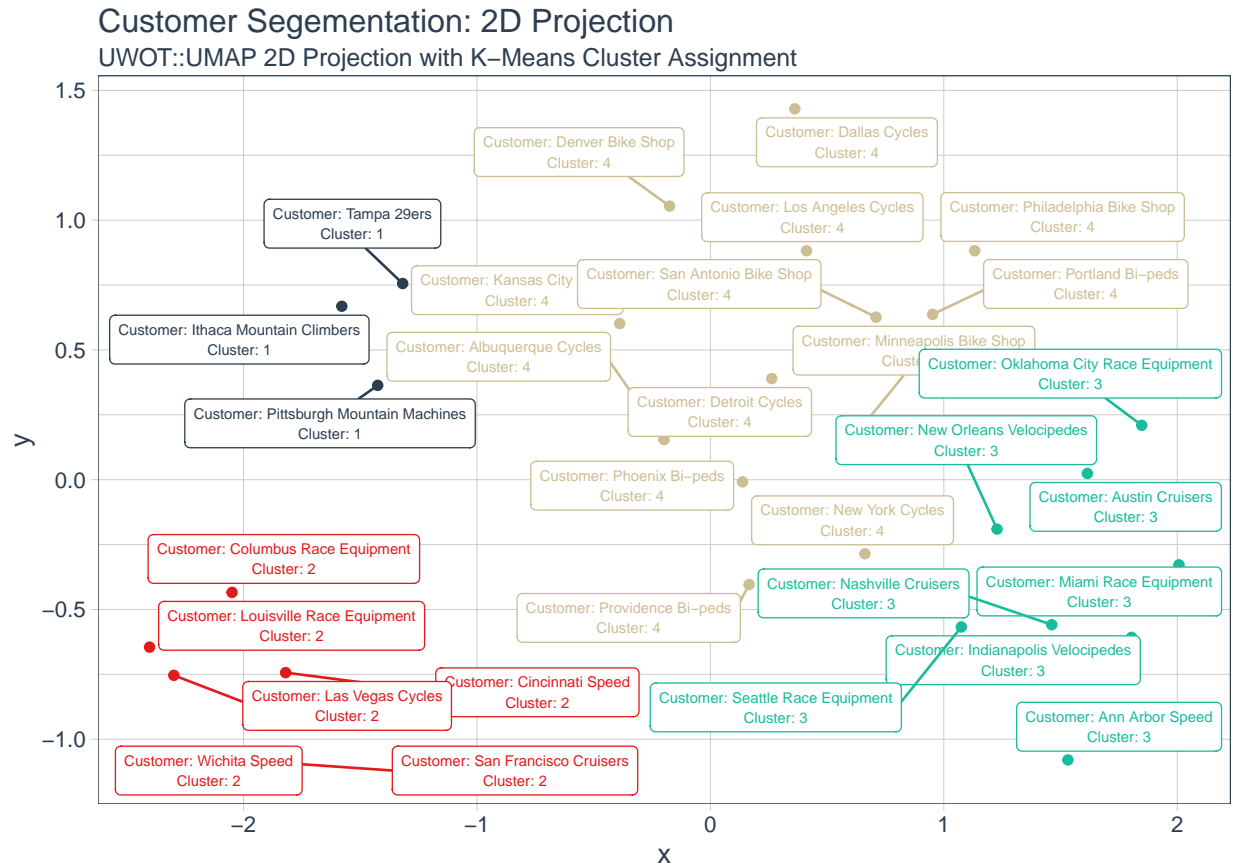
Customer Preferences

Heat Map

Our customer-base consists of 30 bike shops. Several customers have purchasing preferences for Road or Mountain Bikes based on the proportion of bikes purchased by category_1 and category_2.

Heatmap of Purchasing Habits

Customer	Mountain					Road			
	Cross Country Race	Fat Bike	Over Mountain	Sport	Trail	Cyclocross	Elite Road	Endurance Road	Triathalon
Albuquerque Cycles	17%	3%	5%	12%	13%	2%	24%	19%	5%
Ann Arbor Speed	5%	1%	3%	8%	7%	7%	37%	24%	9%
Austin Cruisers	9%	1%	2%	12%	7%	4%	37%	20%	9%
Cincinnati Speed	15%	0%	7%	1%	6%	6%	31%	24%	9%
Columbus Race Equipment	18%	1%	8%	2%	8%	5%	28%	24%	8%
Dallas Cycles	18%	1%	5%	19%	9%	5%	21%	18%	4%
Denver Bike Shop	24%	3%	9%	17%	18%	4%	14%	9%	3%
Detroit Cycles	17%	1%	9%	10%	12%	6%	22%	18%	6%
Indianapolis Velocipedes	10%	1%	1%	12%	4%	4%	38%	24%	6%
Ithaca Mountain Climbers	30%	2%	17%	9%	18%	2%	11%	8%	3%
Kansas City 29ers	26%	3%	9%	16%	18%	3%	13%	9%	3%
Las Vegas Cycles	17%	1%	10%	0%	4%	4%	29%	25%	9%
Los Angeles Cycles	14%	2%	7%	14%	13%	3%	21%	17%	7%
Louisville Race Equipment	15%	2%	9%	0%	7%	4%	36%	21%	7%
Miami Race Equipment	8%	1%	3%	11%	7%	8%	32%	23%	8%
Minneapolis Bike Shop	18%	2%	4%	10%	14%	6%	24%	17%	5%
Nashville Cruisers	10%	1%	2%	9%	9%	7%	33%	22%	8%
New Orleans Velocipedes	7%	1%	3%	9%	8%	6%	31%	26%	9%
New York Cycles	19%	1%	6%	10%	12%	4%	23%	18%	6%
Oklahoma City Race Equipment	8%	1%	3%	8%	9%	7%	33%	24%	7%
Philadelphia Bike Shop	17%	1%	7%	11%	12%	4%	23%	16%	10%
Phoenix Bi–peds	16%	2%	6%	12%	14%	5%	22%	17%	5%
Pittsburgh Mountain Machines	29%	3%	14%	9%	16%	2%	12%	9%	5%
Portland Bi–peds	18%	2%	6%	13%	13%	5%	23%	14%	6%
Providence Bi–peds	18%	1%	7%	10%	13%	3%	20%	22%	5%
San Antonio Bike Shop	15%	2%	6%	13%	13%	2%	23%	17%	8%
San Francisco Cruisers	10%	1%	9%	1%	6%	5%	32%	22%	13%
Seattle Race Equipment	6%	1%	2%	3%	12%	5%	24%	36%	11%
Tampa 29ers	30%	3%	19%	13%	15%	2%	10%	6%	2%
Wichita Speed	17%	2%	9%	2%	5%	6%	31%	22%	7%

Bike Type (Category 2)

Customer Segmentation

This is a 2D Projection based on customer similarity that exposes 4 clusters, which are key segments in the customer base.

Customer Segementation: 2D Projection
UWOT::UMAP 2D Projection with K–Means Cluster Assignment

Customer Preferences By Segment

The 4 customer segments were given descriptions based on the customer's top product purchases.

1. **Segment 1 Preferences:** Mountain Bikes, Above $3k

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Top 10 Bike Models by Customer and Cluster