Customer Segmentation

Business Science

10/16/2021

Problem Statement

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

Solution Summary

The data science team has identified 4 customer segments were given descriptions based on the customer's top product purchases.

- 1. **Segment 1 Preferences:** Road Bikes, Below \$3200 (Economical Models)
- 2. **Segment 2 Preferences:** Mountain Bikes, Above \$3200 (Premium Models)
- 3. Segment 3 Preferences: Road Bikes, Above \$3200 (Premium Models)
- 4. Segment 4 Preferences: Both Road and Mountain, Below \$3200 (Economical Models)

Customer Preferences

Heat Map

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

Heatmaps of Purchasing Habits

		Mountain					Ĭ	Road			
	Albuquerque Cycles	16.8%	3.1%	4.5%	12.2%	13.3%		2.4%	24.1%	18.9%	4.5%
omer	Ann Arbor Speed	5.3%	0.7%	3.2%	7.6%	7.1%		6.6%	37.0%	23.6%	8.8%
	Austin Cruisers	8.5%	0.8%	2.0%	11.8%	6.5%		3.7%	37.4%	19.9%	9.3%
	Cincinnati Speed	15.3%	0.3%	7.2%	0.8%	6.1%		6.1%	30.9%	23.8%	9.5%
	Columbus Race Equipment	18.0%	0.8%	8.1%	1.5%	7.6%		4.6%	27.7%	23.9%	7.9%
	Dallas Cycles -	17.5%	1.3%	4.7%	18.8%	9.4%		4.7%	20.9%	18.4%	4.3%
	Denver Bike Shop	23.9%	2.7%	9.2%	16.9%	17.9%		3.7%	14.0%	8.8%	3.1%
	Detroit Cycles	17.3%	1.0%	8.7%	9.5%	11.5%		6.3%	22.4%	17.7%	5.6%
	Indianapolis Velocipedes -	10.3%	1.3%	1.3%	11.6%	4.1%		3.8%	37.6%	24.1%	6.0%
	Ithaca Mountain Climbers	30.0%	2.0%	16.6%	8.6%	18.2%		1.9%	11.3%	8.1%	3.3%
	Kansas City 29ers	25.8%	2.9%	8.9%	16.1%	17.9%		3.1%	12.6%	9.4%	3.3%
	Las Vegas Cycles	17.0%	1.0%	10.4%	0.5%	4.0%		4.2%	28.7%	25.2%	9.1%
	Los Angeles Cycles	14.5%	2.2%	7.2%	14.2%	12.6%		3.5%	21.4%	17.3%	7.2%
	Louisville Race Equipment	14.7%	1.5%	9.1%	0.3%	6.8%		3.5%	36.2%	21.3%	6.6%
	Miami Race Equipment	7.6%	1.3%	2.7%	10.5%	7.0%		7.9%	32.0%	23.5%	7.6%
Customer	Minneapolis Bike Shop	17.7%	2.1%	3.7%	9.7%	14.2%		6.4%	23.7%	17.0%	5.5%
	Nashville Cruisers	9.8%	0.9%	2.0%	9.0%	9.2%		6.6%	32.7%	22.3%	7.5%
	New Orleans Velocipedes	6.8%	0.7%	3.4%	9.1%	7.8%		6.4%	31.0%	25.5%	9.2%
	New York Cycles	19.0%	1.0%	6.4%	10.1%	12.3%		4.0%	22.7%	18.3%	6.2%
	Oklahoma City Race Equipment	8.4%	1.0%	2.6%	7.5%	9.3%		7.1%	33.1%	24.2%	6.8%
	Philadelphia Bike Shop	16.7%	1.2%	7.3%	10.6%	11.8%		3.7%	23.3%	15.5%	9.8%
	Phoenix Bi-peds	16.0%	2.0%	6.0%	12.5%	14.4%		5.3%	21.8%	17.2%	4.8%
	Pittsburgh Mountain Machines	29.4%	3.2%	13.8%	8.8%	15.6%		2.1%	12.5%	9.3%	5.3%
	Portland Bi-peds	17.9%	1.9%	5.7%	13.0%	12.9%		5.4%	22.8%	14.4%	5.9%
	Providence Bi-peds	18.5%	1.1%	7.4%	10.0%	13.5%		2.6%	20.1%	21.6%	5.4%
	San Antonio Bike Shop	15.1%	2.2%	6.5%	12.9%	13.4%		2.2%	23.1%	16.7%	8.1%
	San Francisco Cruisers	10.4%	1.1%	8.8%	1.3%	6.4%		5.3%	32.1%	21.9%	12.6%
	Seattle Race Equipment	6.2%	0.8%	2.3%	3.1%	11.7%		4.7%	24.2%	35.9%	10.9%
	Tampa 29ers	30.1%	2.9%	19.4%	12.6%	15.0%		2.4%	9.7%	5.8%	1.9%
	Wichita Speed	16.6%	2.4%	8.9%	2.0%	4.7%		5.5%	30.8%	21.7%	7.5%
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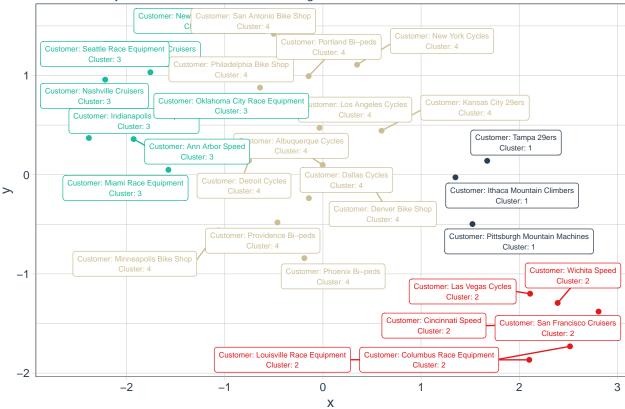
Bike Type (Category 2)

Customer Segmentation

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

Customer Segmentation

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.

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