2018 Morris Hite marketing Analytics Competition

Team Name:

Mars

Team Member:

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Executive Summary

Business Objectives:

Know the customers demographics and attituded;

Acquire **more customers** based on segmentation, product bunding;

Maximize **Revenue** by increasing the share of wallet and loyalty based on customers

Techniques & Analyses

Cleanse the raw dataset with over 600 attributes and over 80K rows, by distinguishing and deleting the non-useful Null values and hiding the duplicate attributes.

Use Advanced Excel analysis and Tableau to analysis and conclude the difference customer demographics and life styles.

Techniques & Analyses

Use Logistic Regression to identify bundle product types with women apparel for different customer segmentations with Python.

Use RFM to segment current customers by shopping behavior records.

Create and optimize Random Forest model that map customer segments with customer profiling data with Python.

Divide the potential customers, including competitors' customers, by specific tag with Random Forest model to do direct marketing.

Marketing Insights:
Demographic between Client and Competitors

Client

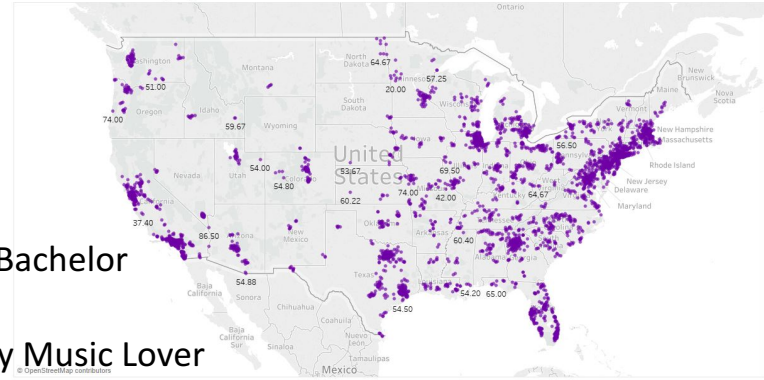Age: 60-65   0-1 kid

Education: High School and Bachelor

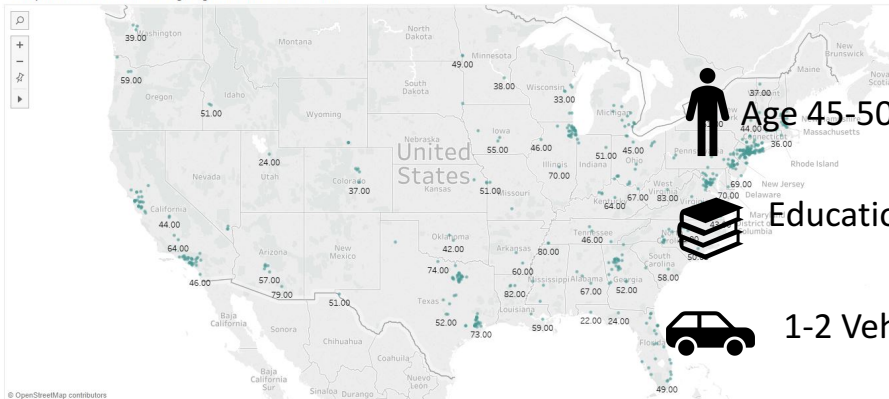0-1 Vehicle   Country Music Lover

Client's Costomers average Age based on states

Competitor's customer avarage age based on each state

Competitors

Age 45-50   0-1 kid

Education: bachelor and master

1-2 Vehicles   Luxury life

Rock Star   Green thumb

Marketing Insights:
Get Larger share of wallets by bundle product (1)

Big ticket shopper:

General Merchandise + Big Ticket Women Apparel increases the probability of buying Women Apparel by 78.53%

Health Products + Big Ticket Women Apparel increases the probability of buying Women Apparel by 75.92%

Sports and Leisure Products + Big Ticket Women Apparel increases the probability of buying Women Apparel by 70.63%

Low ticket Lover:

Jewelry + low ticket lover increases the probability of buying Women Apparel by 82.34%

General Merchandise + low ticket lover increases the probability of buying Women Apparel by 73.41%

Personal Care Products + low ticket lover increases the probability of buying Women Apparel by 69.08%

Love Both:

Jewelry + Comprehensive shopper increases the probability of buying Women Apparel by 78.80%

General Merchandise + Comprehensive Women Apparel increases the probability of buying Women Apparel by 78.53%

Linens + Comprehensive Women Apparel increases the probability of buying Women Apparel by 76.98%

Marketing Insights:
Get Larger share of wallets by bundle product (2)

Competitor:

The top five products that competitor's customers would like to buy are: Jewelry, General Merchandise, Home Furniture, health products and Stationery.

Therefore, acquire these potential customers from competitors by bundling product Ads with the Ads of these kinds of products.

Marketing Insights:
Gain more customer using RFM segmentation(1)

Champions

Most frequency, most recently and most frequently.

Main receiver of new products promotion.

Big spenders

Customer who spent the most.

Send more Ads about luxury products and provide time limited on sale

Loyal Customers

Customers who bought most frequently or recently.

Provide ranked VIP discount

At Risk

Who previously spent most and(or) made frequent purchase but haven't purchased for a very long time.

Send more Ads and provide time limited on sale

Lost Customer

Customers who haven't purchased for a very long time.

Do not need to spend too much efforts but try to win them back by informing them the new products

Marketing Insights:
Gain more customer using RFM segmentation(2)

Champions	Big spenders	Loyal Customers	At Risk	Lost Customer
Marcom:	Marcom:	Marcom:	Marcom:	Marcom:
Big Ticket Customer:	Big Ticket Customer: 1st,Email 2nd, mail	Big Ticket Customer:	Big Ticket Customer:	Big Ticket Customer:
1st,Text	Low Ticket Customer:	1st,Web 2nd,Phone	1st, Text	1st, Mail 2nd,Web
Low Ticket Customer:	1st, Web 2nd,Phone	Low Ticket Customer:	Low Ticket Customer:	Low Ticket Customer:
1st,Web 2nd Mail		1st, Web 2nd ,Mail	1st, Text	1st, Mail 2nd,Web
			Customers locate in Texas	Customers locate in Oregon

Marketing Insights:
Catch customer's eye by Precision Marketing

Based on the survey data, segment the customer's hobby by sports, travel, reading, weight management, cooking, home life, and Techies.

Promote product with relevant hobbies to catch customer's' eyes

Optimal Machine Learning Model: Random Forest

- Create a random forest classifier by target current customer profiling data and shopping behavior survey data with belonging segment

- Apply the classifier on future customer data to estimate the potential segment in order to implement precision marketing

Thank You！