Cobalt®

Automotive Shopper Consumer Segmentation

What is this about?

Increase dealership sales →

Increase consumer satisfaction →

Categorize car shopper type →

Objectives

Classification
We will find out the factors that are most related to the segmentation of new and used car shoppers.

Clustering
We will statistically mining data from Enterprise Data Warehouse (EDW).

User Analysis
We will analyze customer online behaviors and find the patterns and characteristics.

Business Insights
We will present our findings from both business and technical friendly way and show how our finding is going to help automotive dealerships.

Accomplishments

Increased New/Used car shopper classification accuracy from 66% to 85%.

Associated customer characteristics (Age/Income/Region) with car shopping preferences.

Built multiple statistical models with high accuracy, recall and significance.

Connected and processed large data sets from multiple sources using PostgreSQL, R and Excel.

Problem Statement

- We don't know enough about automotive consumer.
- How to use online behavior to predict consumer preferences on new vs. used cars?
- What are the variables that most significantly represent consumer characteristics?

Data Sources

- 40 GB of Enterprise Data Warehouse (EDW) data from xxx to xxx
- 65k entries of Online Survey data from xxx to xxx

Logistical & Multinomial Regression Model

Target
~Last_vehicle_view
+ First_vehicle_view
+ Email_leads
+ Search_filter_value
+ New_vehicle
+ Vehicle_details_time
+ Accessory
Accuracy
85%

Research Method

Stages	Background Research	Data Processing	Model Building	Analysis
Steps	✓Understanding automotive industry ✓Research literature review ✓Current research methods	✓Variable selection ✓Data collection ✓Data exploration & cleanup	✓Model selection ✓Model fitting ✓Model validation	✓Cluster profiling ✓Results explanation & visualization ✓Recommendation

Authors

Amol Khor
Lu Liu
Tingting Zhang
Xing Xu

University of Washington

Information School
UNIVERSITY *of* WASHINGTON