D.A.R.T. (Customer Segmentation)

Introduction

DART is a marketing platform created by OPENmate.

The lifestyle of urban and suburb are different. D.A.R.T considers many variations such as geographical differences to classify the lifestyle of customers: total 30 market segmentations in Korea.

Market segments of D.A.R.T provide family life cycle, income, and consumption patterns of customers. Using D.A.R.T, company can identify and target the customers.

Statistical Methods

Ada-boost Ensemble algorithm is used to determine the FLC groups of customers.
The algorithm is created for each administrative districts of Korea to apply the distinct characteristics of neighborhoods.

General Additive Model is used to estimate the household income of customers. Instead of predicting the response variable as a whole formula, the GAM calculates each of the explanatory variables and adds them all together for better prediction.
Process of D.A.R.T.

Following is the process of the D.A.R.T. algorithm

1. Geo-coding & data enrichment: Geocode the address of customers and enhance the information of the customers by adding house type, house value, house area, number of households, and etc.

2. Family life cycle determination: Age, gender and house type data are used to analyze the family life cycle of the customers. There are 7 different family groups which are University Students, Bachelor/Bachelorette, Newly Married Couple, Family live with Elementary School Students, Family live with Middle/High School Students, Young Adult live with parents, and Elders.

3. Income Estimation: Household income is estimated into 5 different income levels by age, gender, location and the house price. The lowest income level is 1 and the highest is 5.

4. Consumption Pattern analysis: Evaluate the consumption patterns of customers by adding all the variables that can distinguish the consumer consumptions such as number of households, education, employment, goods or material consumed data and etc.

5. Determination of the D.A.R.T. group: Combine the result from the step 1 through step 4 to determine the segmentation of customers.

※ The algorithm is analyzed and verified by NICE (National Information & Credit Evaluation) CB data.

Source Data

- XGA (Geo-coding Engine), OPENmate
- Housing data 2013, Ministry of Land, Transport and Maritime Affairs
- Census 2010, Statistics of Korea
- Credit Data 2013, Nice Credit bureau