

## Marketing Analytics : Final Evaluation



### Problem Statement

Marketing analytics refers to the process of collecting, analyzing, and interpreting data related to customer behavior and interactions with a business. This type of analytics utilizes various techniques and technologies to extract insights from customer data and company data, which can then be used to make informed business decisions and improve overall performance. It helps a business to better understand its customers and makes it easier for them to modify marketing strategies according to the specific needs, behaviors and concerns of different types of customers. We learnt a lot of techniques using R to analyze customer data.

The dataset provided is the data of customers of a retail company in FMCG( fast moving consumer goods) sector. The dataset gives details of the customers, his family, recency of visit, frequency of visits, amount spent on products in the last year etc.

How can we leverage customer generated data and R programming( Please use your knowledge of R Programming for descriptive data analysis, visualization, machine learning algorithms) to identify key insights and trends within our dataset, enabling the development of targeted marketing strategies that optimize customer engagement, retention, and conversion rates?

You can use a combination of various strategies(think First Principles of Marketing ) or a completely new marketing strategy. Use machine learning algorithms and R programming for your analysis. You can also use secondary data like data collected from website about FMCG goods, reviews etc. to support your analysis(example reviews of customers, tweets, Wikipedia articles).

Please get the details of the dataset. You do not have to use all the columns provided. You can choose which features to consider for your chosen algorithm.

## Details of the Dataset

### Attributes

#### People

- ID: Customer's unique identifier
- Year\_Birth: Customer's birth year
- Education: Customer's education level
- Marital\_Status: Customer's marital status
- Income: Customer's yearly household income
- Kidhome: Number of children in customer's household
- Teenhome: Number of teenagers in customer's household
- Dt\_Customer: Date of customer's enrollment with the company
- Recency: Number of days since customer's last purchase
- Complain: 1 if the customer complained in the last year, 0 otherwise

#### Products

- MntWines: Amount spent on wine in last year
- MntFruits: Amount spent on fruits in last year
- MntMeatProducts: Amount spent on meat in last year
- MntFishProducts: Amount spent on fish in last year
- MntSweetProducts: Amount spent on sweets in last year

#### Promotion

- NumDealsPurchases: Number of purchases made with a discount
- AcceptedCmp1: 1 if customer accepted the offer in the 1st campaign, 0 otherwise
- AcceptedCmp2: 1 if customer accepted the offer in the 2nd campaign, 0 otherwise
- AcceptedCmp3: 1 if customer accepted the offer in the 3rd campaign, 0 otherwise
- Response: 1 if customer accepted the offer in the last campaign, 0 otherwise

## Place

- NumWebPurchases: Number of purchases made through the company's website
- NumCatalogPurchases: Number of purchases made using a catalogue
- NumStorePurchases: Number of purchases made directly in stores
- NumWebVisitsMonth: Number of visits to company's website

## Deliverables

- Report : A pdf document with the marketing strategies based on your insights derived from data analysis and explanation of the machine learning algorithm and the mathematics behind it. This document takes the form of an academic report.
  - (Naming convention – StudentID\_Prenom\_MarketingAnalytics.pdf)
  - Word Limit : 750 to 3000 words, or 1 to 5 pages
- R file (RStudio)

## SUBMISSION POINT : MOODLE LINK

## Last Date of Submission : Mentioned on the SUBMISSION LINK

## Evaluation

- Weightage on the marketing strategies that you come up with based on the insights. This is the most important output since the point of insight is to help make decisive strategies.
- Weightage on data pre-processing and explanation of the algorithms used. (This showcases the learning of the student regarding R programming and algorithms)
- Weightage on the explanation of the mathematics behind the insights and the programming style.( This validates that the student understands how to read and interpret numbers/data)

Please See : Plagiarism and AI generated contents will be penalized. Try to present your individual solution and understanding.

Happy Learning....!!!