Customer Analytics
using **Unsupervised-Machine Learning**

Problem Overview

Goldie's Foods and Cold Store is a renowned retail destination that caters to diverse customer needs. Located in a prime area, the mall offers a wide range of products, including groceries, apparel, household items, and more. The Store features a food court with a range of dining options, making it an ideal place for a quick bite or a leisurely meal. With its quality products, competitive prices, and customer- centric approach, Goldie's Foods and Cold Store continue to be a preferred destination for shoppers.

However, The store is unable to effectively target and engage with individual customers. To overcome this challenge, you have been contacted as a data scientist to carry out a customer personality analysis, which will enable Goldie's Foods and Cold Store to gain insights into customer behaviors, interests, and preferences.

Objective

The goal of this project is to perform Exploratory Analysis and a Customer Personality Analysis, this will aid you segment customers based on their purchasing behavior and demographic information. We will use unsupervised learning techniques like Dimensionality reduction (PCA) and Clustering to identify groups of customers with similar behavior and characteristics. This information can be used to develop targeted marketing campaigns, personalized product recommendations, etc.

Data Dictionary

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 customer complained in the last 2 years, 0 otherwise

Products

•MntWines: Amount spent on wine in last 2 years

•MntFruits: Amount spent on fruits in last 2 years

•MntMeatProducts: Amount spent on meat in last 2 years

•MntFishProducts: Amount spent on fish in last 2 years

•MntSweetProducts: Amount spent on sweets in last 2 years

•MntGoldProds: Amount spent on gold in last 2 years

Data Dictionary

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

AcceptedCmp4: 1 if customer accepted the offer in the 4th campaign, 0 otherwise

AcceptedCmp5: 1 if customer accepted the offer in the 5th 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 web site

NumCatalogPurchases: Number of purchases made using a catalogue

NumStorePurchases: Number of purchases made directly in stores

NumWebVisitsMonth: Number of visits to company's web site in the last month

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