

## Micro Segmentation

### Principal applications:

- Personalization provides better customer experience.
- Effective Acquisition and retention strategy which helps to focus on profitable customer and apply a recovery plan on old valuable clients.
- To create right marketing channels for right audience.
- Can always keep the clients updated with trending deals and premiums of their interest and preference.
- Increases profitability, helps business growth and better customer relationship.



## Introduction

Many companies fail to make maximum use of the customer information which brings insight on customer demands and supplies for better Customer Relation Management.

In 1956, Wendell Smith proposed the definition for market segmentation. Market segmentation is referred to as the method of grouping the customers, in which consumers of the same group are homogeneous and that of other groups are heterogeneous. The value of the market segmentation analysis includes properly positioning the product in the market by appropriately identifying the profitable customer groups.

Customer Risk Micro-Segmentation for Customer Relation Management (CRM) aims to build relations with the profitable clients by performing customer segmentation which helps the insurer to design premium plans for the targeted niche groups to increase the returns.

AXA is one of the world leading insurance and asset management groups. The project aims to predict into which cluster or segment the AXA insurance holder fall based on various details such as his age, qualification, car ownership along with the engine condition and previous claim details. In this way, AXA can insist their insurance premiums based on the customer behavior.

## Research Objective

It is very important to understand the customers and the market's supply and demand. To get a better understanding of their customers and market, insurers have traditionally created a small number of large segments to group those believed to behave similarly. These segments usually consist of information with a similar age, driving experience and claim experience.

There are already multiple premiums offered by an insurer. By segmenting people, the relevant premiums can be advertised to the targeted group to make it a profitable customer group instead of insisting all the premiums to all the customers.

Now that AXA has more data available than even before, segmentation techniques need to be refined to create much smaller niche groups to gain a far greater understanding of customers behavior and performance. Micro segmentation to be performed on the four macro segments.

## Dataset:

Size: about 300000 records provided by AXA.

Data has four macro segments.

Car claims: Has information pertaining to claims such as date, year, month, quarter claim event incurred. Number of third party, accidental and other claims and the amount claimed.

Sales car: Demographic details of the insured and the dependents who are included in the policy. Policy information, Car ownership and engine information and any fraudulent behavior.

Quotes car and In force car which gives the information about policies in force and the quote.

## Methodology

From the above mentioned macro segments, more number of micro segments to be created. To achieve this I will leverage multiple Machine learning clustering algorithms and compare against one another to find the best fit model to create micro segments for AXA.

## Literature Review

- A two-stage model was proposed where K means clustering was integrated with SOM network to group the clients with different features in order to position and identify the target customers of the company effectively.
- In Market Segmentation, the behavior of the customer is described by three behavioral variables namely RFM (Recency, Frequency, Monetary) which tells how recently, how frequently and for how much did the customer buy.

## Technologies



## Future Scope

- With the increase of customer information, more micro segments can be formed.
- AXA can model personalized premiums which increases profitability once the target customer groups are identified.

## References

- Customer Segmentation Analysis Based on SOM Clustering, Ying Li ; Feng Lin, 2008 IEEE International Conference on Service Operations and Logistics, and Informatics.
- Customer Segmentation Using Two-Step Mining Method Based on RFM Model, Fitra A. Bachtiar, 2018 International Conference on Sustainable Information Engineering and Technology (SIET), IEEE.