Customer Segmentation

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Customer Intelligence
Data for modeling process
Profile & Segment Customers
Tools
Demo
Customer Intelligence is the concept of gathering, analyzing and exploiting information of the company's customers with the aim to create and maintain a mutually beneficial relationship between the Organization and its Customers where the Organization attempts to maximize the Life Time Value of the relationship.
The task of Marketing Analytics

Marketing Analytics turns data into knowledge (profits)
Marketing Analytics helps to answer...

- Better Cross-/Up-Selling
- More efficient customer retention
- Recovery of potentially valuable customer relationships
- More efficient acquisition of new customers
- Faster termination of potentially less valuable customer relationships

Types of Analyses used in Marketing Analytics

- Fraud Probability
- Probability of Default
- Channel Preference
- Cross-sell Probability
- Product Association
- Up-sell Probability
- Expected Value of Response
- Segmentation
- Churn Probability
- Activation Probability
A Single Customer View…

**Simple Data**
- Customers
- Households
- Products
- Transactions
- Relationship Managers

**Derived / Additional Data**
- Contact/Response History
- Scores
- Events
- Surveys/Questionnaires
- Demographics
- Profitability Measures
- Segments
### Customer Data You Should Collect - Banking

- Customer demographics (retail/corporate client)
- Product information (number and types of products, loyalty)
- Transactional behavior
  - Number, amount and types of transactions per defined time period
- Balances
  - Average, opening and closing balances per defined time period.
- Utilization of distribution channels
  - Channel usage number (ATM, online, branch) per given time period.
- Complaints
- Risk profile
  - Delinquency/claim (number and amount per defined period)
- Household relations
- Contact History
- Competitive information

### Customer Data You Should Collect - Insurance

- Customer Demographics
- Relationship with the insurance company (tenure etc)
- Product Portfolio (Policy and Riders Information)
- Coverage Information
- Claims Information
- Premium and Payment Information
- Agent Information
- Complaints
- Contact History
- Competitive Information
Customer Data You Should Collect - Telco

- Customer Demographics
- Relationship with the insurance company (tenure etc)
- Product Portfolio (number and types of products – prepaid/postpaid)
- Messages Information
- Airtime Information
- Payment Information
- Contact History
- Competitive Information
**Terminology**

Segmentation is in essence the process by which items or subjects are categorized or classified into **groups with similar characteristics**. That characteristic could be one or more attributes.

Randal S. Collica
CRM Segmentation and Clustering

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**Clustering Example**

Partition data into groups with similar characteristics.
Behavioral and Marketing Segments

- **Marketing segments** - groups of customers who are similar to each other with respect to some socio-economic-demographic factors like: age, sex, family status, occupation, living area etc.

- **Behavioral segments** - groups of customers who behave in a similar manner in relation with the business.

Directed versus Undirected Segmentation

- **Supervised (directed) segmentation** – business analyst defines one or more target variables that should drive the segmentation.

- **Unsupervised (undirected) segmentation** – analytical algorithm uncovers hidden patterns that may be significant and useful for the given purpose.
Segmentation Process

1. Segmentation Objective Definition
2. Data Preparation/Model Development/Scoring
3. Segment Profiling
4. Identification of Segment Strategies
5. Implementation of Segment Strategies
6. Measurement and Evaluation

Segmentation Objectives

- **Improving profitability** through more effective marketing
- **Serving better** to high priority customers
- **Changing the customer mix** to provide a greater proportion of high-profit or high-profit-potential customers in the customer base
- Provide **global vision** of company’s customers
- Identify **valuable** customers
- Identify **cross-sell** opportunities
Data Preparation – Segmentation Variables

- **Active variables** - variables, which are expected to have an influence on clustering.
- **Descriptive variables** - further profiling of the segments that are determined by active variables. They are used for identification of the main characteristics of the clusters.

Number of Segments

- **Trial and Error Process**
- **Good Cluster Definition** (for CRM purposes) – clusters whose members are very similar to each other while at the same time the clusters themselves are well separated (by criteria selected for clustering)
- **Business Purpose** – 5 to 12 segments
**Segment Profiling**

- Explanation of the assigned customer segments
- The result - characteristics of a **typical customer within each segment**
- Utilization in assigning the correct marketing segment for each behavioral segment
- The typical explanatory variables used in profiling:
  - Age, Marital status, Occupation, Education level, Annual income, Postal code (or information derived from that, such as city, town, or village), Activity level of customer, Life cycle of customer, Customers market segment, Residence status code

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**Segment Profiling – Example**
**Segment Scoring**

Process of assigning the **segment identification variable** for each customer on the basis of some pre-specified segment structure.

**Segmentation Reports**

- Customer Segment Size Report
- Segment Movement Report
- Migration
- Distribution of Segments over Time
## Segment Strategies

Define Segment Strategy and Action Plans for each Segment

<table>
<thead>
<tr>
<th><strong>WHO?</strong></th>
<th>Segment description. Differentiation comparing to other segments.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WHAT?</strong></td>
<td>What products, bundles?</td>
</tr>
<tr>
<td><strong>WHY?</strong></td>
<td>Segment’s needs based message.</td>
</tr>
<tr>
<td><strong>HOW MUCH?</strong></td>
<td>Pricing rules.</td>
</tr>
<tr>
<td><strong>WHEN?</strong></td>
<td>Time for interactions.</td>
</tr>
<tr>
<td><strong>HOW?</strong></td>
<td>Preferred distribution channels.</td>
</tr>
</tbody>
</table>
SAS Enterprise Guide

- Reporting, graphical and analytical tasks
- Data management - preparation and cleaning
- Statistical Analysis
- OLAP access, visualization and manipulation
- Result distribution and sharing
- Administration and security
- Scripting and automation
SAS Enterprise Miner:

Answers Questions Such As

- Which customers are likely to respond to an offer?
- Which transactions are likely to be fraudulent?
- Which factors contribute to equipment failure?
- Which prospects will be the best customers?
- Which customers are likely to churn in short-term?
- Which portfolios are likely to be the most risky?
- Which claims are likely to be paid at less than 100%?
SEMMA Metodológia

- SAMPLE – vzorky dát, vytvorením jednej alebo viacerých tabuliek

Customer Intelligence Definition
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SEMMA Metodológia

- **EXPLORE** – preskúmanie dát, hľadanie vzťahov, vzorov, neočakávaných trendov...
  - Association
  - Cluster
  - DMDB
  - Graph Explore
  - Market Basket
  - MultiPlot
  - Path Analysis
  - SOM/Kohonen
  - StatExplore
  - Text Miner (optional)
  - Variable Clustering
  - Variable Selection

SEMMA Metodológia

- **MODIFY** – úprava údajov vytváraním nových premenných, transformovaním, nahrádzaním hodnôt, rekódovaním...
SEMMA Metodológia

- **MODEL** – vytváranie modelu použitím analytických metód
  - AutoNeural
  - Decision Tree
  - Dmine Regression
  - DMNeural
  - Ensemble
  - Gradient Boosting
  - MBR
  - Model Import
  - Neural Network
  - Partial Least Squares
  - Regression
  - Rule Induction
  - SVM
  - TwoStage

SEMMA Metodológia

- **ASSESS** – výber najlepšieho modelu, aplikácia modelu na nové dáta
  - Cutoff
  - Decisions
  - Model Comparison
  - Segment Profile
  - Score