

Customer Quality Prediction

Problem

A firm is commissioned by an insurance company to develop a tool to optimize their marketing efforts. **The objective is to determine which set of customers the marketing firm should contact to maximize profit.**

Data

The insurance company has provided a historical data set (training.csv). The company has also provided a list of potential customers to whom to market (testingCandidate.csv). **From this list of potential customers, it is required to determine yes/no indicating whether to market to them to maximize the profit.**

| Type | Name | Description |
|------------------|----------------|---|
| Input Variables | custAge | The age of the customer (in years) |
| Input Variables | profession | Type of job |
| Input Variables | marital | Marital status |
| Input Variables | schooling | Education level |
| Input Variables | default | Has a previous defaulted account? |
| Input Variables | housing | Has a housing loan? |
| Input Variables | loan | Has a personal loan? |
| Input Variables | contact | Preferred contact type |
| Input Variables | month | Last contact month |
| Input Variables | day_of_week | Last contact day of the week |
| Input Variables | campaign | Number of times the customer was contacted |
| Input Variables | pdays | Number of days that passed by after the client was last contacted from a previous campaign (numeric; 999 means client was not previously contacted) |
| Input Variables | previous | Number of contacts performed before this campaign and for this client |
| Input Variables | poutcome | Outcome of the previous marketing campaign |
| Input Variables | emp.var.rate | Employment variation rate - quarterly indicator |
| Input Variables | cons.price.idx | Consumer price index - monthly indicator |
| Input Variables | cons.conf.idx | Consumer confidence index - monthly indicator |
| Input Variables | euribor3m | Euribor 3 month rate - daily indicator |
| Input Variables | nr.employed | Number of employees - quarterly indicator |
| Input Variables | pmonths | Number of months that passed by after the client was last contacted from a previous campaign (numeric; 999 means client was not previously contacted) |
| Input Variables | pastEmail | Number of previous emails sent to this client |
| Target Variables | responded | Did the customer respond to the marketing campaign and purchase a policy? |
| Target Variables | profit | If the customer purchased a policy, how much profit (before marketing costs) did the company make on the policy? |