Propensity-To-Buy Model for Bank Campaign

**Abstract**

In this project, we aim to increase campaign efficiency by identifying the main factors that affect the success of a campaign and predicting whether the campaign will be successful to a certain client, namely, whether the client will subscribe a term deposit.

**Background**

The increasing number of marketing campaigns over time has reduced their effects on the general public. First, due to competition, positive response rate to mass campaigns are typically very low, according to a recent study, less than 1% of the contacts will subscribe a term deposit. Second, direct marketing has drawbacks, such as causing negative attitude towards banks due to intrusion of privacy. In order to save costs and time, it is important to filter the contacts but keep a certain success rate.

**Objective**

Our objective is to build a classifier to predict whether or not a client will subscribe a term deposit. If the classifier has high accuracy, the banks can arrange a better management of available resources by focusing on the potential customers “picked” by the classifier, which will improve their efficiency a lot. Besides, we plan to find out which factors are influential to customers’ decision, so that a more efficient and precise campaign strategy can be designed to help to reduce the costs and improve the profits.

**Data Source**

Our data were collected from a Portuguese marketing campaign related with bank deposit subscription for 45211 clients and 20 features, and the response is whether the client has subscribed a term deposit.

Our data set is downloaded from http://archive.ics.uci.edu/ml/datasets/Bank+Marketing The marketing campaigns were based on phone calls.

**Signals to Consider for Modeling**

|  |  |
| --- | --- |
| Variable | Type |
| Age | Numeric |
| Balance | Numeric |
| Day | Numeric |
| Month | String |
| Duration | Numeric |
| Campaign | Numeric |
| PDays | Numeric |
| POutcome | String |
| Previous | Numeric |
| Job | String |
| Marital | String |
| Education | String |
| Default | String |
| Housing | String |
| Loan | String |
| Contact | String |
| Deposit | String |