# Classification: Telemarketing case

## Introduction

A popular strategy in direct marketing is the telemarketing phonecalls; even if this kind of intervention is a low-cost alternative, the sucess of its implementation relies in the propper targeting of potential clients.

In this assignment, you will use machine learning techniques in order to predict the success of telemarketing calls for selling a particular bank product. Your prediction will be based on features of different casses as the chracteristics of the offered product (interest rate) and the characteristic of the potential clients (age, employement).

## Target Class:

The target attribute is binary: 1- the client subscirbed the product , 0- the client did not subscribed the proposed product.

## Files:

You have two different dataset: (a) telemrketing_train which you can use to create your model and (b) telemarketing_pred that emulates the new data and in which you must provide your predictions.

## Attributes Information:

| id | Attribute type | Attribute | Type | Description/Values |
|----|----------------|-----------|------|--------------------|
| 1 | Personal | age | numerical | Age of the potential client |
| 2 | | job | categorical | admin., blue- collar, entrepreneur, housemaid, management, retired, self-employed, services, student, technician, unemployed ,unknown |
| 3 | | marital_status | categorical | divorced, married, single, unknown |
| 4 | | education | categorical | basic.4y,basic.6y,basic.9y,high.school,illiterate,professional.course,university.degree,unknown |
| 5 | Client-Bank Relation | default | categorical | The client has credit in default: no,yes,unknown |
| 6 | | housing | categorical | The client has a housing loan contract: no,yes,unknown |
| 7 | | loan | categorical | The client has a personal loan: no,yes,unknown |
| 8 | Campain | contact | categorical | Communication type: cellular,telephone |
| 9 | | month | categorical | Last month contacted: jan, feb ,…, dec |
| 10 | | day_of_week: | categorical | Last contact day : mon, tue,…, fri |
| 11 | | duration | numerical | Last contact duration (in seconds) |
| 12 | | campain | numerical | Number of contacts performed during this campaign |
| 13 | | pdays | numerical | Number of days that passed by after last contact (999 if the client was not previously contacted) |
| 14 | | previous | numerical | Number of contacts performed before this campaign |
| 15 | | poutcome | categorical | Outcome of the previous marketing campaign: failure,nonexistent,success |
| 16 | Social and economic indicators | emp.var.rate | numerical | Employment variation rate in the last quarter |
| 17 | | cons.price.idx | numerical | Consumer price index in the last month |
| 18 | | cons.conf.idx | numerical | Monthly consumer confidence index |
| 19 | | euribor3m | numerical | Dayly Euro Interbank Offered Rate |
| 20 | | nr.employed | numerical | Number of employees in the last quarter |