

# Question: Bank Marketing Analysis

Attached is a txt file containing some real data that relates to a marketing campaign run by a bank. The aim of the marketing campaign was to get customers to subscribe to a bank term deposit product. Whether they did this or not is variable 'y' in the data set.

The bank in question is considering how to optimise this campaign in future. **What would your recommendations to the marketing manager be?** Please prepare a deck with your recommendations. In the interview you'll have around 30 minutes, including interruptions and questions, to present your findings.

## Input variables

bank client data:

- 1 - age (numeric)
- 2 - job : type of job  
(categorical: 'admin.', 'unknown', 'unemployed', 'management', 'housemaid', 'entrepreneur', 'student', 'blue-collar', 'self-employed', 'retired', 'technician', 'services')
- 3 - marital : marital status (categorical: 'married', 'divorced', 'single'; note: 'divorced' means divorced or widowed)
- 4 - education (categorical: 'unknown', 'secondary', 'primary', 'tertiary')
- 5 - default: has credit in default? (binary: 'yes', 'no')
- 6 - balance: average yearly balance, in euros (numeric)
- 7 - housing: has housing loan? (binary: 'yes', 'no')
- 8 - loan: has personal loan? (binary: 'yes', 'no')

related with the last contact of the current campaign:

- 9 - contact: contact communication type (categorical: 'unknown', 'telephone', 'cellular')
- 10 - day: last contact day of the month (numeric)
- 11 - month: last contact month of year (categorical: 'jan', 'feb', 'mar', ..., 'nov', 'dec')
- 12 - duration: last contact duration, in seconds (numeric)

other attributes:

- 13 - campaign: number of contacts performed during this campaign and for this client (numeric, includes last contact)
- 14 - pdays: number of days that passed by after the client was last contacted from a previous campaign (numeric, -1 means client was not previously contacted)
- 15 - previous: number of contacts performed before this campaign and for this client (numeric)
- 16 - poutcome: outcome of the previous marketing campaign (categorical: 'unknown', 'other', 'failure', 'success')

## Output variable (desired target):

- 17 - y - has the client subscribed a term deposit? (binary: 'yes', 'no')