PORTUGUESE FINANCIAL INSTITUTION

Introduction

Fixed deposit

- Term Deposits are a major source of income for a bank.

- A term deposit is a cash investment held at a financial institution.

- Your money is invested for an agreed rate of interest over a fixed amount of time, or term. *ex. 7% pr.* *→ 5y, 10y, 20y*

- The bank has various outreach plans to sell term deposits to their customers such as:
  - Email Marketing
  - Advertisements
  - Telephonic Marketing ← *most efficient*
  - Digital Marketing

Problem Statement

cash burning

- Telephonic marketing campaigns still remain one of the most effective way to reach out to people.

- Telephonic marketing require huge investment as large call centers are hired to actually execute these campaigns.

- Hence, it is crucial to identify the customers most likely to convert beforehand so that they can be specifically targeted via call.

Objective

◦ The goal is to predict if the client will subscribe to a term deposit (variable y)

Data Understanding

○ The data is related to the direct marketing campaigns of a Portuguese banking institution.

○ The marketing campaigns were based on phone calls.

○ Often, more than one contact to the same client was required, in order to access if the product (bank term deposit) would be ('yes') or not ('no') subscribed by the customer or not.

○ Missing Attribute Values: None

○ From May 2008 to November 2010

DATA DICTIONARY

1 - age (numeric) → *Customer demographics*

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)   *CASA → Current A/c + Saving A/c*

7 - housing: has housing loan? (binary: "yes","no")

8 - loan: has personal loan? (binary: "yes","no")

April
29 April
P a
→ pdays

related with the last contact of the current campaign: *landline   mobile*

9 - contact: contact communication type (categorical: "unknown","telephone","cellular")   *15 Aug — 1000*

10 - day: last contact day of the month (numeric) *29*   *28 Aug — 2000*

11 - month: last contact month of year (categorical: "jan", "feb", "mar", ..., "nov", "dec")

12 - duration: last contact duration, in seconds (numeric) *200*

→ Term deposit

other attributes: *2*

→ 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)   *5*

→ 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")

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

    ↳ Target

Submit to: Capstone.Projects@learnbay.co

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Attachment: Jupyter Notebook (.ipynb file)