

### Bank Marketing (Campaign)

Group	Name	Email	Country	College	Specialization
Data Duo	Ayushi Malaviya	ayushimalaviya1999@gmail.com	USA	Stevens Institute of Technology	Data Science
Data Duo	Nilesh Rathi	nileshrathi99@gmail.com	USA	Indiana University Bloomington	Data Science

#### Problem Description:

ABC Bank is planning to launch a term deposit product and wants to determine the likelihood of customers subscribing to this product based on their past interactions with the bank or other financial institutions. To achieve this, ABC Bank aims to develop a predictive model that can assist in understanding whether a particular customer will buy their term deposit or not.

The available data for this project consists of information related to direct marketing campaigns conducted by a Portuguese banking institution. These campaigns were primarily conducted via phone calls, and multiple contacts were often made with the same client to assess their interest in subscribing to the bank's term deposit product. The outcome of each campaign was recorded as either a successful subscription ('yes') or a non-subscription ('no').

The primary objective of this project is to build a classification model that can accurately predict whether a client will subscribe to the term deposit product ('yes') or not ('no'). By leveraging the historical data on customer interactions, ABC Bank aims to identify patterns, trends, and factors indicative of a higher likelihood of subscription. This predictive model will enable the bank to target its marketing efforts more effectively, optimise resource allocation, and enhance the success rate of its future marketing campaigns.

#### Business Understanding:

Understanding the likelihood of customer subscription to a term deposit product is crucial for ABC Bank's marketing and sales strategies. By developing a predictive model, ABC Bank aims to gain insights into customer behaviour and preferences, allowing them to tailor their marketing efforts accordingly. This understanding will help the bank optimize its resources, minimize costs, and increase the efficiency of its marketing campaigns.

By analyzing the past interactions between the bank and customers, the model can identify key factors that influence the decision-making process. These factors may include demographic information, previous banking history, campaign-specific variables, and other relevant attributes. By accurately predicting customer behaviour, ABC Bank can focus its marketing efforts on individuals who are more likely to subscribe to the term deposit product, thereby improving the conversion rate and maximizing the return on investment (ROI) for its marketing campaigns.

Moreover, the predictive model can provide valuable insights into customer segmentation, allowing ABC Bank to differentiate its marketing strategies based on various customer profiles. By understanding which customer segments are more inclined towards subscribing to the term deposit product, the bank can tailor their messaging, offers, and communication channels to cater to each segment's specific preferences, thus increasing the overall effectiveness of its marketing campaigns.

Overall, developing an accurate predictive model will empower ABC Bank to make data-driven decisions, enhance customer targeting, optimize marketing efforts, and increase the success rate of their term deposit product.

#### **Project Lifecycle:**

Phase1	Business Evaluation and EDA for further processes	By 6/26/23
Phase2	Data Modelling and Data Consistency Evaluation	By 6/03/23
Phase3	Web APP Development and Testing	By 7/10/23
Phase4	Deployment on Cloud	By 7/17/23
Phase5	Building Data Ingestion Pipeline	By 7/24/23
Phase6	Building Dashboard (Optional)	By 7/30/23

#### **Data Intake Report:**

Name: Data Science:: Bank Marketing Campaign

Report date: 19-June-2023

Internship Batch: LISUM21

Version: 1.0

Data intake by: Data Duo (team)

Data intake reviewer:

Data storage location: <https://archive.ics.uci.edu/dataset/222/bank+marketing>

#### Tabular data details: bank-additional-full

Total number of observations	41188
Total number of files	1
Total number of features	21
Base format of the file	.csv
Size of the data	5.8MB

#### Proposed Approach:

- There are no missing values in the data set.
- Assumptions made:
  - o Complete: since data has no missing values.
  - o Consistent: data is uniform in its format, units of measurement and data types.
  - o Relevant: data is totally related to the research question being studied.
  - o Unbiased: data is not influenced by any personal or external factors.

Github Repo Link: <https://github.com/Ayushimalaviya/Bank-Marketing-Campaign-Analysis>