



# POTUGUESE BANK MARKETING PREDICTION

INSIGHTS OF DATA

## ABSTRACT

The data is related with 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 (or not) subscribed.

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# INSIGHTS OF DATA

## 1. ABOUT DATASET:



















1. Age - Referring to age of a person.
2. job - Represents employment status of a person.
3. Marital - Represents marital status of a person.
4. Education - Represents the level of education.
5. Default - Defaulting on a loan essentially means you've stopped making payments on a loan or credit card according to the account's terms. In general, defaulting on a loan can damage your credit and threaten your overall financial health.
6. Housing - Whether that person took a loan or not.
7. Loan - Whether that person has personal loan or not.
8. Contact - Represents Communication channel.
9. Month - Represents last contact month of a year.
10. Day of week - Represents Last contact day of a week.
11. Duration - Represents how many seconds that a call was happened.
12. Campaign - Represents number of contacts performed during this campaign and for this client.
13. Pdays - Represents number of days that passed by after the client was last contacted from a previous campaign.
14. Previous - Represents number of contacts performed before this campaign and for this client.
15. poutcome - outcome of the previous marketing campaign
16. emp.var.rate - employment variation is essentially the variation of how many people are being hired or fired due to the shifts in the conditions of the economy. When the economy is in a recession or depression, people should be more conservative with their money and how they spend it because their financial future is less clear due to cyclical unemployment. When the economy is at its peak, individuals can be more open to risky investment because their employment options are greater.
17. cons.price.idx - The Consumer Price Index measures the overall change in consumer prices based on a representative basket of goods and services over time. The CPI is the most widely used measure of inflation, closely followed by policymakers, financial markets, businesses, and consumers.
18. cons.conf.idx - This consumer confidence indicator provides an indication of future developments of households consumption and saving, based on answers regarding their expected financial situation, their sentiment about the general economic situation, unemployment and capability of savings.
19. euribor3m - Euribor is short for Euro Interbank Offered Rate. The Euribor rates are based on the interest rates

at which a panel of European banks borrow funds from one another. In the calculation, the highest and lowest 15% of all the quotes collected are eliminated. The 3 month Euribor interest rate is the interest rate at which a selection of European banks lend one another funds denominated in euros whereby the loans have a maturity of 3 months. Alongside the 3 month Euribor interest rate we have another 14 Euribor interest rates with different maturities. The Euribor interest rates are the most important European interbank interest rates. When the Euribor interest rates rise or fall (substantially) there is a high likelihood that the interest rates on banking products such as mortgages, savings accounts and loans will also be adjusted.

20. nr.employed - Number of employees

21. Y - Subscribed term deposit or not.

## 2. UNIVARIATE INSIGHTS:

-  **Duration** - When the duration is increasing the chances of subscribing to term deposit also increasing.
-  **Marital** - Married people are subscribing more surprisingly with less count the singles are also subscribed equally with married people with slight difference. So we can say that married and singles are important clients.
-  **Education** - We can see that the university degree people are subscribing more to term deposit followed by high school people.
-  **Default** - The non defaulters are subscribing more.
-  **Housing** - The people who took housing loan are subscribing to term deposit more followed by non housing people with minute difference.
-  **Loan** - The people who don't took personal loan are subscribing more to term deposit.
-  **Contact** - Communication through cellular are subscribing more to term deposits.
-  **Month** - May, June, July, Aug, April - These are the months where people are inclined towards term deposit.
-  **dayofweek** - So Almost everyday from Mon to Fri are giving term deposit same with little differences.
-  **Poutcome** - Successful campaign has more term deposits than other.
-  **job** - The retired people and students are subscribing more to term deposits.
-  **campaign** - The lesser the contact number the more the term deposits.
-  **pdays** - The clients who was contacted after long time subscribed to term deposit and the clients who was contacted in less time also subscribed term deposit but there are very few people who was contacted in less gap.
-  **previuos** - From the graph we can say that if the client was contacted very few times i.e 1 to 3 the clients are going to take term deposit.
-  **emp.var.rate** - At every rate we can see that there are people who are subscribing to term deposits.
-  **cons.price.idx** - The frequency is more b/w 93.4 to 93.8.
-  **cons.conf.idx** - The frequency is more at -39 to -40
-  **euribor3m** - When the euribor rate is b/w 0.6 to 1.8 the more clients are subscribing to term deposits.

- ✚ **nr.employed** - At 5191 the frequency is more
- ✚ **Age** - The frequency is more b/w 20 to 28 years old and 60+.

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